NOVEMBER, 1937

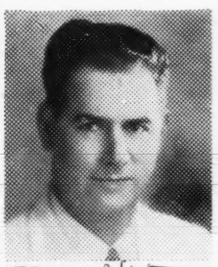
COTTON

Serving the

TEXTILE INDUSTRIES

TO AID AND PROTECT INDUSTRIAL DEVELOPMENT IN THE SOUTHEAST

GOVERNOR OF NORTH CAROLINA



GOVERNOR OF SOUTH CAROLINA

GOVERNOR OF ALABAMA

GOVERNOR OF GEORGIA

GOVERNOR OF FLORIDA

GOVERNOR OF LOUISIANA

GOVERNOR OF TENNESSEE

SOUTHEASTERN GOVERNORS CONFERENCE

NORTH CAROLINA • GEORGIA • MISSISSIPPI • ALABAMA • LOUISIANA
FLORIDA • KENTUCKY • SOUTH CAROLINA • TENNESSEE
Atlantic Ocean
Gulf of Mexico

GOVERNOR OF KENTUCKY

GOVERNOR OF MISSISSIPPI

WE, THE GOVERNORS *of the Southeastern States . . .*

WITH a view to aiding industrial expansion of our section and the stabilization of employment we, the Governors of the Southeastern States set forth the following objectives:

- **1** ***Equitable freight rates as affect the Southeast.***
- **2** ***Uniform taxation policies.***
- **3** ***Friendly labor attitude between employer and employee.***
- **4** ***Cooperation with Federal Government on proper major policies affecting industrial development.***

It will be our aim by working together on these objectives to maintain conditions favorable to sound industrial development so that the Southeast will reap the full benefits of the ever-increasing trend toward Industrial Decentralization.

THE SOUTHEAST PAYS NO TRIBUTE TO WINTER

What share of your profits does winter demand? What tribute is taken from your workers' wages by snow and sleet and unrelenting cold?

The underlying factor behind the great trek of industry to the Southeast is its year 'round moderate climate. A climate that reduces capital investment, cuts construction costs, and lowers production costs all along the line. A climate that makes possible better standards of living at *lower living costs* for both labor and management. Investigate the possibilities of a Southeastern location for your type of manufacture. On the basis of *facts* you will, inevitably, come to the conclusion that you can substantially increase profits by placing all or part of your production in the Southeast. And you will find our people ready and anxious to cooperate with you in making your enterprise a success.

✦ ✦ ✦

Outstanding advantages which the Southeastern States offer to manufacturers are:

Unlimited supply of raw materials.
Ample power at low rates.
Excellent transportation facilities to growing markets.
Native-born labor—efficient and reasonable.

And especially, above all others,

Unexcelled year 'round moderate climate which makes possible:

Lower living costs for better standards of living.
Lower production costs.
Lower construction costs.
Lower capital investment.

LAWRENCE WOOD ROBERT, JR.
Industrial Consultant
Southeastern Governors Conference
Bona Allen Bldg., Atlanta, Georgia

NO MATTER WHERE YOU LOCATE YOUR MILL YOUR YARN DYEING PROBLEM WILL BE SOLVED

A NATIONAL SERVICE

Labor supply, water supply and nearness to raw materials and market are all problems that may influence you for or against a particular textile section, when locating a new mill or when relocating an established business.

However you can select ANY major textile area with perfect confidence that your yarn dyeing problem will be solved. For in that area is a Franklin Process plant adequately equipped to serve you.

Franklin Process, specialists in package dyeing since 1910, had 17,000,000 lbs. of yarn dyeing experience in 1936 alone. This organization package dyes spun yarn of all types, including cotton, worsted, silk and rayon, with all classes of soluble dyestuffs and fast-to-bleaching colors are a specialty.

If you have several plants, located in different sections of the country, Franklin Process can duplicate your shades in ANY plant, through exchange of formulas. The colors will finish the same, look the same in all lights and have the same fastness.

Use Franklin Process, the NATIONAL yarn dyeing service. It facilitates deliveries and minimizes manufacturing troubles.

Franklin Process

SPECIALISTS IN PACKAGE DYEING SINCE 1910

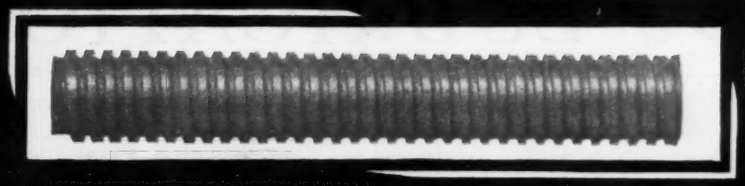
Natural Yarns *Colored Yarns* *Glazed Yarns* *Dyeing and Processing Machines*

PROVIDENCE · PHILADELPHIA · GREENVILLE · CHATTANOOGA · CHICAGO · N. Y. REPRESENTATIVE, 40 WORTH ST.

COTTON is published monthly by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga.
Subscription Rates, United States and Possessions, $1.00 for one year; $2.00 for three years; Canada, $1.50 per year; Foreign Countries, $2.00 per year.
Entered as second-class matter at the postoffice, Dalton, Ga., under the Act of March 3, 1879.

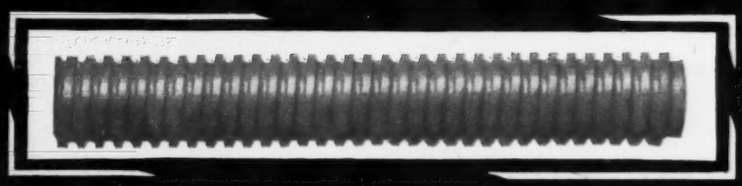
The Best Temple Rolls

for Rayon Weaving



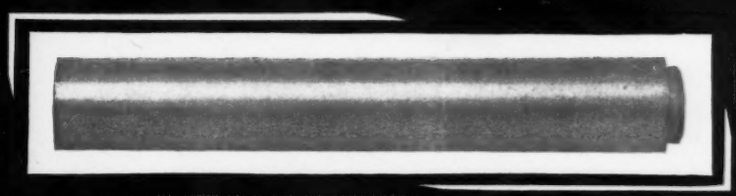
Our New Koroseal Rolls

(Made in Green)



Used in Dutcher Temples

with New Adjustable Top



They Hold the Fabric Firmly — They Do Not Mark the Cloth

They Last Longer than the Usual Rolls — Used for Rayon Weaving

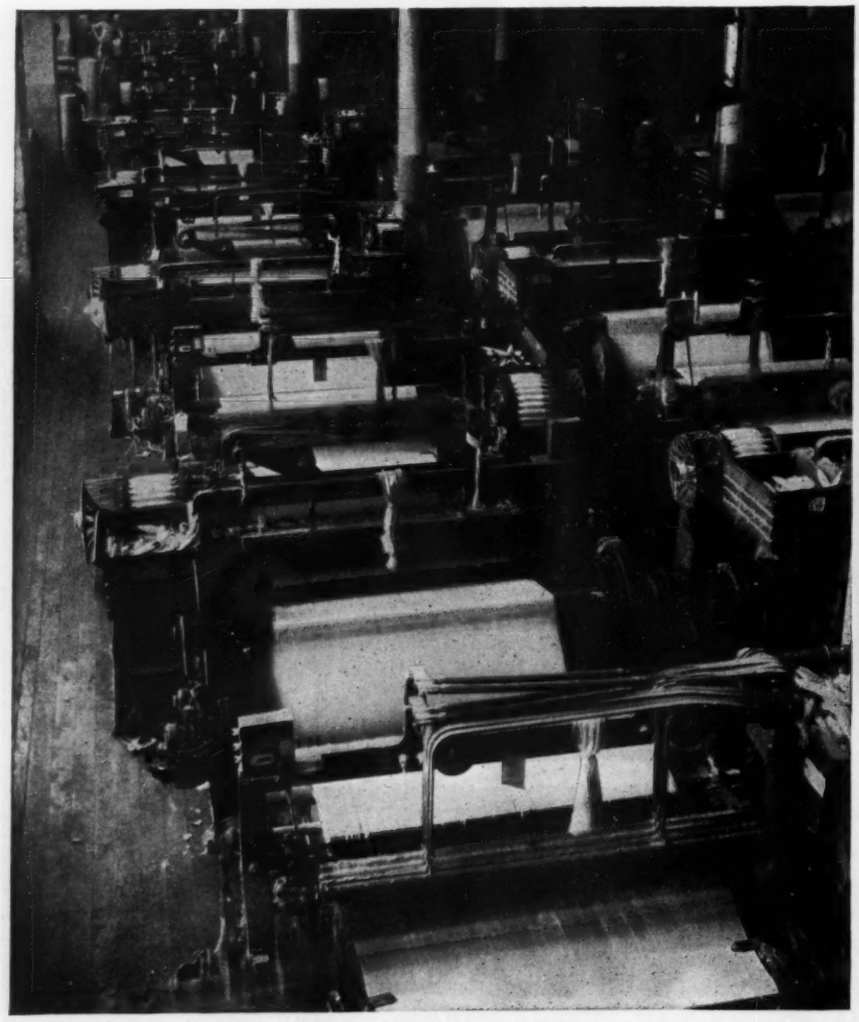
The Special Wooden Bushing with Enlarged Head on One End Holds the Cover so that it Cannot Change Position—Insuring Long Life and Efficiency

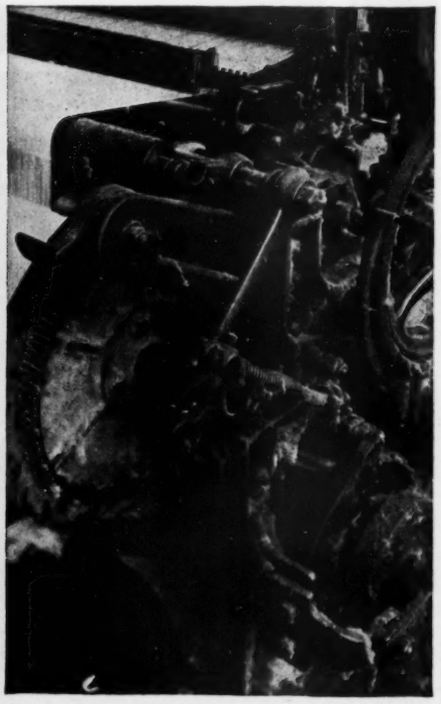
Our Koroseal Rolls are made with Right and Left Hand Thread or Plain Cover (without thread on surface)

DRAPER CORPORATION

Atlanta Georgia — Hopedale Massachusetts — Spartanburg S C

Research Focuses on *loom* LUBRICATION





Oil holes plugged by the accumulation of lint can keep bearings from getting lubrication . . . causing undue wear. Texaco has a plan to overcome this problem of loom lubrication.

Unscientific lubrication of looms costs mills thousands of dollars each year, in low-grade fabrics, high cost of repairs. Texaco can help reduce this waste.

OIL SPOTTING of fabrics will be less of a problem, when more attention is paid to the way looms are lubricated.

Texaco has engineers experienced in loom lubrication. These men approach this textile mill problem from a new angle, as the result of Texaco cooperation with loom builders, mill operators, and others.

These trained lubrication engineers are available for consultation on the selection and application of Texaco Loom Lubricants. Prompt deliveries assured through 2070 warehouse plants throughout the United States.

☆ ☆ ☆

The Texas Company, 135 East 42nd Street, New York City.

TEXACO

TEXACO *loom* LUBRICANTS

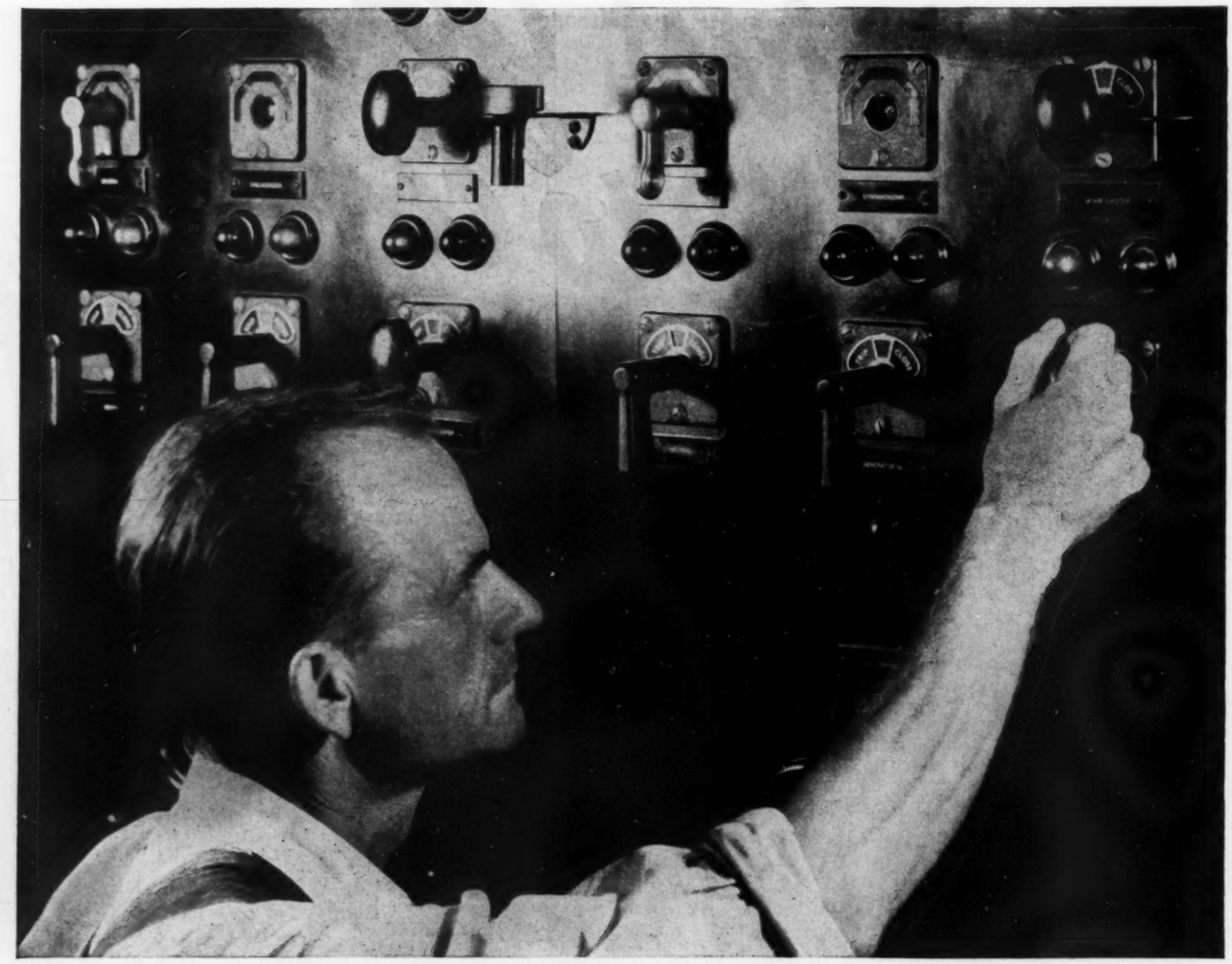
Competition and Economics Demand it!—Replacement of post-war looms by post-depression ones is under way . . . Today's C & K looms are already tried . . . ready for the concern that is committed to succeeding. . . To learn the facts as to the drop box weaving equipment in your particular industry please write us for a Booklet, "C & K Box Loom Census," which we have been working on for two years and are about to release. Merely request it on your firm's letter paper.

Please mention the magazine in which you saw this announcement.

Crompton & Knowles Loom Works

Allentown Philadelphia WORCESTER, MASSACHUSETTS Charlotte, North Carolina

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.



The More Power to Him!

A CHANCE visitor might attribute C. J. Dorst's passion for keeping everything "just so" to temperament or to plain fussiness. But as power plant operator at Mathieson's Lake Charles plant, Dorst's job carries responsibilities which call for precisely this sort of thoroughness.

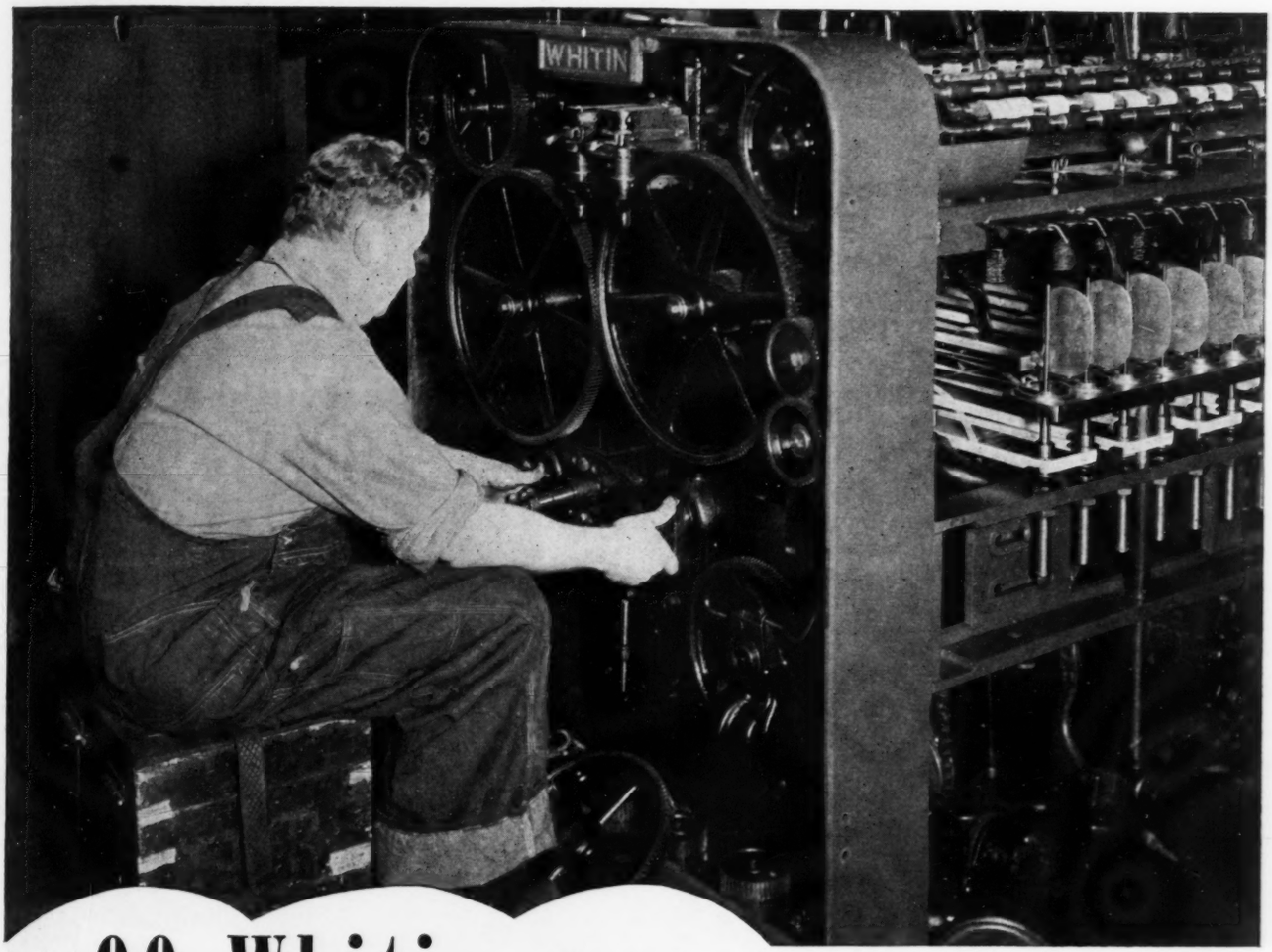
For not only must power service throughout Mathieson's plant be continuous. Its output must be closely controlled; voltage and frequency must be kept within narrow limits; generators must be accurately synchronized. Only in this way can Mathieson take full advantage of the low-cost raw materials and fuel at Lake Charles, and translate these into outstanding quality for its products.

Mathieson's generating equipment at Lake Charles comes as close to perfection as the rest of the units in this modern alkali plant. Yet all this equipment would mean little to you were it not for the supervision of men like C. J. Dorst. In large measure, it is these men—faithfully handling hundreds of "big little" jobs—who make Mathieson an organization to which you can look with unwavering confidence.

The MATHIESON ALKALI WORKS (*Inc.*)
60 East 42nd Street New York, N. Y.

Soda Ash . . . Caustic Soda . . . Bicarbonate of Soda . . . Liquid Chlorine Bleaching Powder . . . HTH and HTH-15 . . . Ammonia, Anhydrous and Aqua PH-Plus (Fused Alkali) . . . Sulphur Chloride . . . CCH (Industrial Hypochlorite) Dry Ice (Carbon Dioxide Ice)

Mathieson Chemicals



90 Whitin men share his job— Installing Profits

You will find one or more of these men constantly travelling from one progressive mill to another, replacing out-of-date machines with Whitin improved yarn processing equipment. These mills anticipated the burden of obsolescence before the pace became too swift. Planned replacements laid out by Whitin engineers have consistently proven to be "installations of profit."

Trained research men at the Whitin Machine Works have been responsible for scores of major yarn processing improvements within a few years — improvements that have brought about productive increases, better quality of product and operating savings.

The evidence is well worth your request to have a Whitin representative call on you.

Whitin Machines included in recent revampment programs

WHITIN

- Long Draft Roving Frames
- Long Draft Spinning Frames
- One Process Pickers
- Drawing Frames
- Blending Feeders
- Top Flat Cards
- Combers
- High Speed Twisters
- Woolen Cards
- Wool Spinning Frames
- Worsted Spinning Frames

WHITIN MACHINE WORKS

WHITINSVILLE, MASS.

Charlotte, N. C. Atlanta, Ga

Your weaving room machinery investment will yield the greatest profits when your new high speed looms are matched with Westinghouse drive. These drives are built to keep looms running smoothly at maximum output. Here are the reasons:

Ample reserve capacity insures trouble-free operation during the breaking-in period.

Low power consumption because of unusually high efficiency.

Low Maintenance—oil filler caps are easily accessible, the oil column is vertical and has extra capacity for quick filling. An overflow drain gives an immediate indication that sufficient oil has been supplied, and avoids waste of lubricant . . . and also prevents oil from reaching motor windings. The rotor is practically indestructible and bearings are built for long life.

Effective overload protection because the WK-18 starter uses the famous "Motor Watchman" for protection against dangerous overloads and yet permits safe overloads without interruption.

For greater weaving profits specify Westinghouse drive when you install new high-speed looms such as the Crompton & Knowles Models S3, S4, C3, C4, W2, and W3 and Draper Models X, C, XK, and XL.

Westinghouse Elec. & Mfg. Co., Lima, Ohio J 03017

Bearings of Westinghouse 3-point suspension motors used on this loom are designed for long life and low maintenance. Oil fillers are readily accessible. An overflow drains all surplus oil outside the motor, making over-oiling and flooding of the motor impossible.

Pedestal-mounted WK-18 starter guards the motor against dangerous overloads. Safely and quickly reset when tripped.

LINT-FREE MOTORS—With large air passages, glass smooth windings, and tapered rotor vanes.

"DE-ION" LINESTARTERS—Most important forward step in the entire history of motor control equipment.

NOFUZE "DE-ION" CIRCUIT BREAKERS—eliminate fuse outages, resultant man and machine-hour losses.

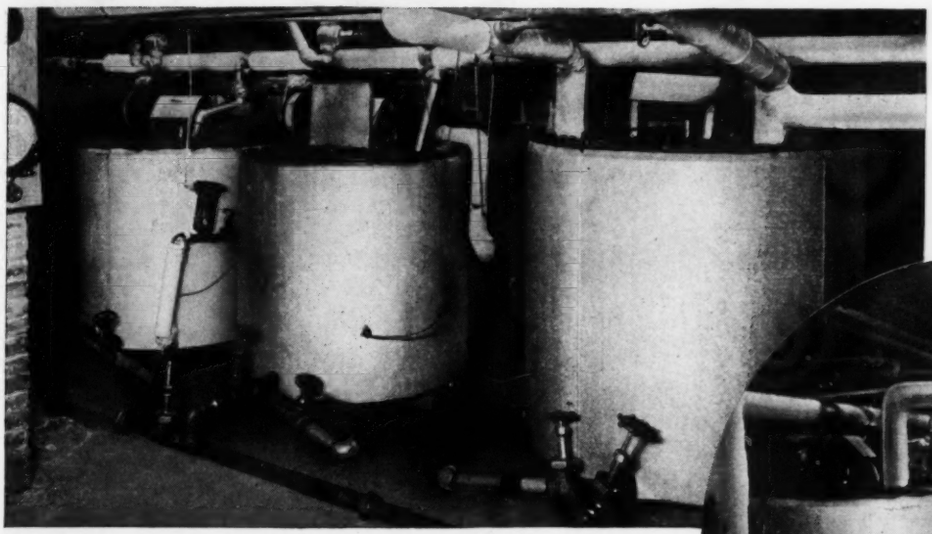
UNDIVIDED RESPONSIBILITY MULTIPLIES THE VALUE of WESTINGHOUSE SERVICE

WESTINGHOUSE ELECTRIC

FROM INCOMING LINE TO DRIVEN MACHINE

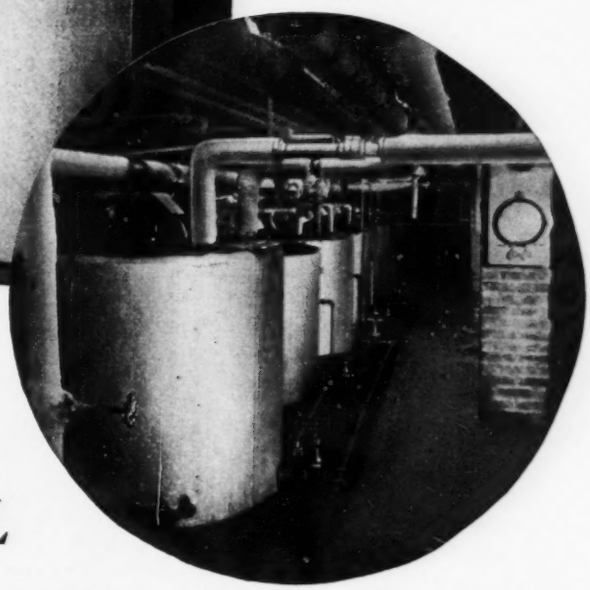
Specify Westinghouse

Any Size CRACK *is* TOO BIG *in a Size-Kettle!*



Three of the nine Nickel-Clad Steel size-kettles (cookers and storage), installed at the plant of West Point Mfg. Co., West Point, Ga., Lanett Mill division. The kettles were fabricated by R. D. Cole Mfg. Co., Newnan, Ga., of ¼-in. thick 10% Lukens Nickel-Clad Steel, using welded construction throughout.

(Below) The other six of this plant's nine size-kettles. Of the nine, seven are cooking kettles, 42 in. dia. x 42 in. high; two are storage kettles, 48 in. x 48 in. Agitators and heating coils in all are Monel.



Eliminate cracks . . . build your kettles of NICKEL-CLAD STEEL

GIVE a thought to the question of costs on your cooking and storage size kettles. Better still, take a little time to get *the exact figures* on how often you've repaired and replaced them the last two years.

For here's a new way to cut those costs way down. New, that is, to some textile men. Those who have tried it are keen about it.

Nickel-Clad Steel kettles outlast by years the ones you're used to . . . because they cut out the source of the chief source of wear. In tanks with a separate corrosion resistant lining, you often find the lining has failed because of cracking. Once that happens, it means repairs, and repairs mean costs.

But here's how Nickel-Clad Steel works. It's not a separate lining. It is a permanently bonded bi-metal, 10% or 20% of the thickness pure Nickel. Steel for economy, Nickel for corrosion resistance. And the only surface that touches the contents is pure Nickel.

No fear of these two metals coming apart. We'd like to send you a sample of Nickel-Clad Steel so that you may see and test for yourself that the Nickel does not separate from the steel during deformation in forming and fabricating.

Ever since the West Point Mfg. Co. had these kettles made of Nickel-Clad Steel, they've found that cracks are OUT for good. And cracks are what put size kettles on the repair list.

For slasher drums, the same properties make Nickel-Clad Steel the ideal metal for long life.

Send the coupon to-day. Nickel-Clad Steel is easily fabricated. And somewhere near you is an experienced fabricator who can start cutting your costs.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET NEW YORK, N. Y.

C-11-37

The INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York, N. Y.

Gentlemen: Kindly send me the name and address of the nearest fabricator experienced in handling Nickel-Clad Steel.

Name .....

Firm .....

Address .....

City ..... State .....

NICKEL-CLAD STEEL

MILITARY PRECISION. An interesting line-up of U. S. Royal Jr. Textile Transmission Belts, servicing a battery of card machines in a big southern cotton mill.

WITH U. S. ROYAL JR.! The new U. S. Royal Jr. is a transmission belt made of textiles for textile industry use. Super-flexible and built to stand heavy starting loads, high speeds, crossed drives, frequent shifting, U. S. Royal Jr. meets the requirements of every type of textile drive. On cards, spinners, and looms, U. S. Royal Jr. runs steady and true . . . giving greater R. P. M. with longer life and less care. Operators like its easy feel . . . its remarkable responsiveness! Proved product value . . . proved performance value . . . proved engineering skill . . . have been built into U. S. Royal Jr. Transmission Belts. That's why they give you—

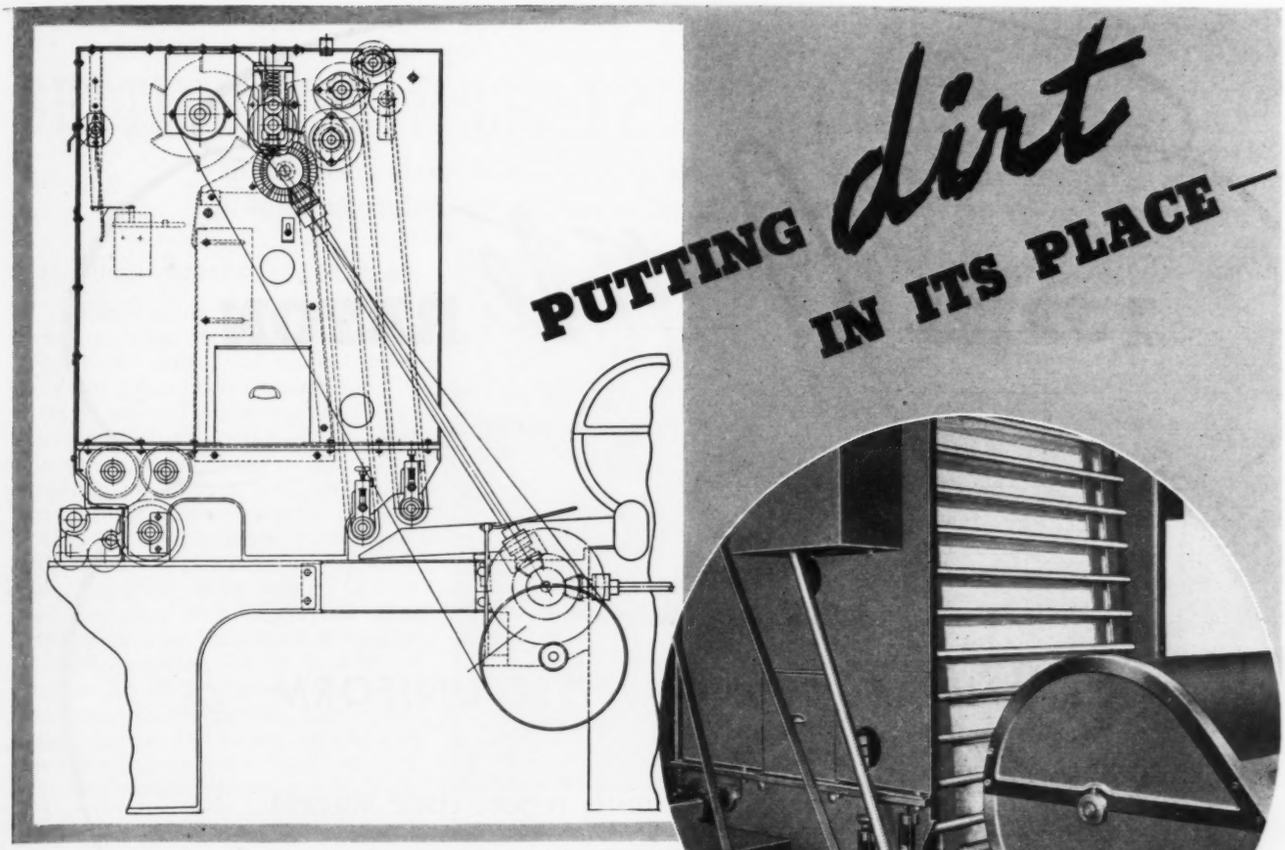
SERVICE BEYOND PRICE AND SPECIFICATIONS

WRITE FOR YOUR FREE COPY *of this new U. S. Transmission Belt Album. Contains photographic case histories of belt problems and applications. Shows U. S. belts at work and in the making.*

UNITED STATES RUBBER COMPANY · US · TRADE MARK

United States Rubber Company

United States Rubber Products, Inc., New York, N. Y.



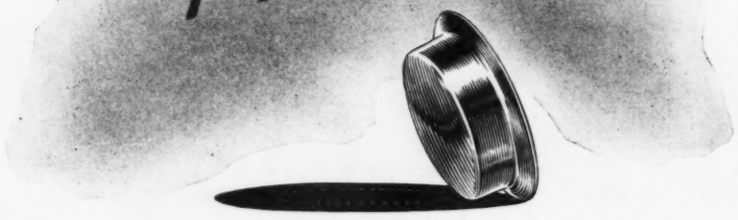
350,000 POUNDS OF STOCK PASS THROUGH SACO-LOWELL CLEANING AND BLENDING RESERVES EVERY HOUR IN MILLS THROUGHOUT THE WORLD

IF you looked in the waste compartment of one of these machines, you'd see why so many leading mills throughout the world prefer this equipment. You'd find waste — yes — but the kind of waste which is so fine that ordinarily it used to "get by". In that box are the minute particles of broken seed, motes, nits, sand, and the elusive peppery leaf. Impurities which cause no end of trouble to carders are removed.

The Saco-Lowell One Process Picker with Blending Reserve has a place in every mill where quality yarn is desired. It can be adapted easily to existing pickers. Our engineering staff will gladly assist and advise you on your particular mill requirements. Please write for bulletin.

SACO-LOWELL SHOPS, 60 Batterymarch Street, Boston, Mass.

TUBIZE *Acetate* RAYON



CLEANER RUNNING · MORE UNIFORM

Time goes on . . . and other mills report their success with the new Tubize Acetate Rayon.

Pleasant news for Tubize . . . important news for you. Actual mill tests are so amply proving that Tubize Acetate *performs* "right" . . . seeming to show, as many users stoutly claim, that Tubize Acetate Rayon is a yarn of outstanding merit.

In limited quantities, Tubize Acetate is now available in 120 and 150 deniers, on cones in dull only.

TWO PARK AVENUE
NEW YORK CITY

TUBIZE *Chatillon* CORPORATION

PLANTS: HOPEWELL, VA.
AND ROME, GA.

Viscose and Acetate Rayon Yarns and Knitted Fabrics

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

5 TO 6-INCH TRAVERSE (No. 50 Winder)

The increasing demand from silk throwsters for attachments to wind 3°30′ taper cones, the same as used for rayon, has been accompanied by a trend toward replacing the 5-inch traverse with a 6-inch traverse. Both changes have the advantage of increasing production and providing more uniform tension on the yarn.

Using a 6-inch traverse, it is possible either to put more material on the cone without changing the outside diameter or to wind the same amount of yarn and have a smaller finished diameter. In the case of the smaller finished diameter, there is less variation in winding speed from inside layers to outside layers and less necessity for careful adjustment of the differential tension mechanism.

The 3°30′ taper winds better cones with fewer imperfections than the 5°57′ taper. For high-twist yarns, there is less chance to draw in or roll on the base end of the cone. It also means less variation in diameter from base to nose of cone; thus, less variation in tension. The 3°30′ cone is larger in diameter, and starts with a higher winding speed which gives a greater spindle production.

This change in cone taper and traverse length is also being made by those throwsters having Pineapple Cone attachments on their No. 50 Winders, and the results are equally satisfactory.

SLUB CATCHER SETTING

The yarn diameter can be used as a guide for setting slub catchers.

When using blade - type slub catchers, the setting for carded cotton yarns is usually twice the yarn diameter . . . and for combed yarns, one and one-half times the diameter.

When using the MacColl needle-type slub catcher, it is usually advisable to have the opening double the amount recommended for the blade-type . . . that is, four times the yarn diameter for carded yarn, and three times for combed yarn.

Naturally, there are many variables making it impossible to adopt the above rules as standard. Some mills will find that their requirements for quality call for closer slubbing; others will have too many breaks and will find that the knot that is put in gives more trouble than the slub. A good rule is: if a mill must choose between knots and slubs, it is better to remove the slubs in the spinning room and get better winding at lower cost.

DISC-QUIL TENSION (No. 90 Winder)

Like many other mills weaving rayon fabrics, Pepperell Manufacturing Company is using No. 90 Leesona Winders equipped with the Disc-Quil tension, to prepare filling for the loom.

Used with overhead-overend delivery, the Disc-Quil makes possible higher winding speeds, including a quick start at maximum speed, and allows operators to turn out more production than when an unrolling supply is used. Winding 150 denier yarn and using the large, precise-wound Universal Cone as a supply, one operator can tend from 80 to 110 spindles, depending upon the diameter and length of the bobbin.

Super-twist yarns for crepe fabrics can best be wound from an unrolling spool supply, using either Type D or Type H Controlled Unrolling Tension.

FORMULA FOR DETERMINING YARN DIAMETER

(Cotton Yarn)

$$\frac{1}{32\sqrt{\text{count}}} = \text{yarn diameter}$$

or

$$\frac{.0312}{\sqrt{\text{count}}} = \text{yarn diameter}$$

Examples

Cotton Count	Diameter
10	.010″
15	.008″
20	.007″
25	.0063″
30	.0057″

(Worsted Yarn)

$$\frac{1}{22\sqrt{\text{count}}} = \text{yarn diameter}$$

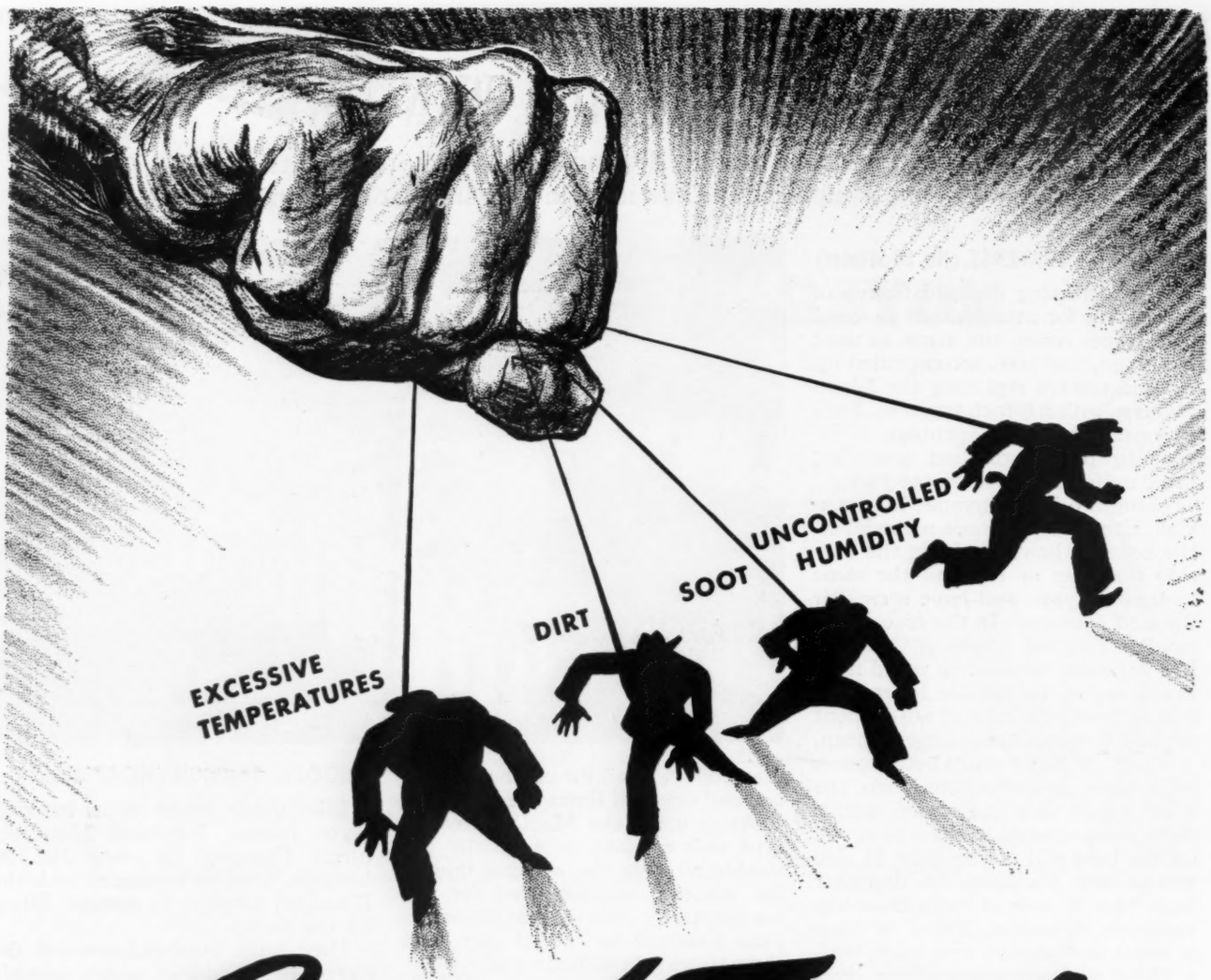
or

$$\frac{.0455}{\sqrt{\text{count}}} = \text{yarn diameter}$$

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

BOSTON · NEW YORK · UTICA · CHARLOTTE · ATLANTA · PROVIDENCE



Control Them!

They reduce or make profits impossible—lower product quality—cause costly spoilage and production delays—take pep and efficiency out of workers. But you CAN bring them under perfect control — with a Sturtevant Evaporative Cooling and Humidifying System.

This system ventilates, cools and humidifies in the summer. It ventilates, heats and humidifies in the winter. It rids the air of dust, dirt and soot the year round.

Many companies have installed these Sturtevant Systems with gratifying results. They include Hudson Silk Hosiery Co., Charlotte, N. C., E. M. Holt Plaid Mill, Burlington, N. C., Tubize Chatillon Corp., Rome, Ga., American Enka Corporation, Enka, N. C., and Carter Fabrics Corporation, Greensboro, N. C.

Our 75 years of air engineering experience is at your service. We would be pleased to send further information or have our nearest engineer call and discuss your problems with you.

Sturtevant
Evaporative Cooling
FOR BETTER PRODUCTS
AT LESS COST

COOLING AND AIR CONDITIONING CORPORATION
DIVISION OF B. F. STURTEVANT CO., HYDE PARK, BOSTON, MASS.
ATLANTA · CAMDEN · CHICAGO · GREENSBORO · NEW YORK

GULF DEPENDABILITY PROVED! ON UTAH SALT BEDS

★ ★ ★ ★ ★

87 world and international speed records were smashed by Ab Jenkins in his powerful racing car shown above—raising world's unlimited 24-hour record to average of 157.27 m.p.h. He also broke the 1-hour record at a speed of 177.05 m.p.h.

Car driven by Ab Jenkins photographed while breaking 36 "unlimited" and 36 "Class C" stock closed car records—all well above 100 m.p.h. For 24 hours he averaged 101.72 m.p.h.

Ab Jenkins sets 159 new speed records.... using Gulfpride Oil and No-Nox Ethyl Gasoline

(Supervised and timed by the Contest Board of the American Automobile Association)

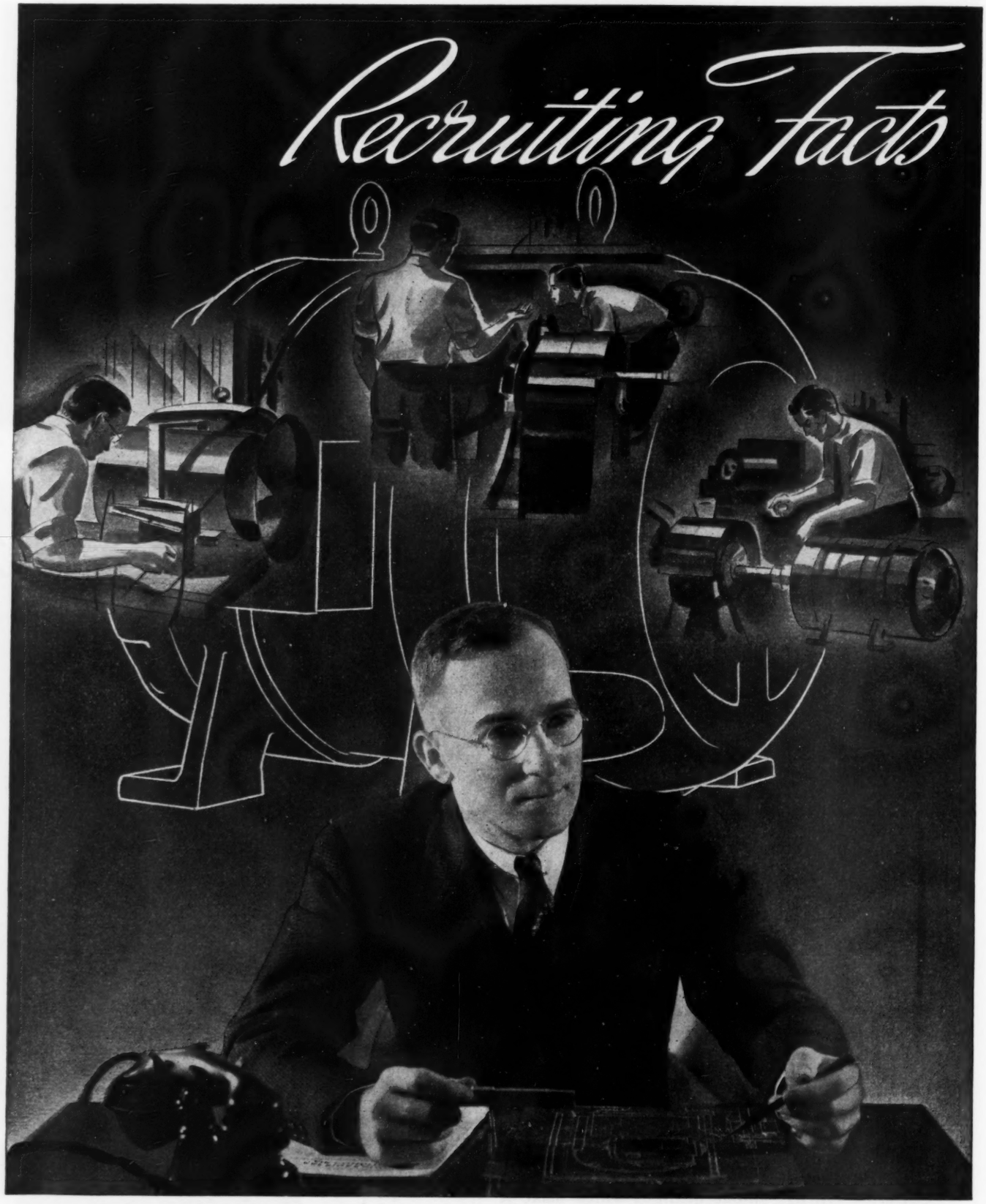
NO special lubricants or fuels were used by Ab Jenkins when he recently hung up 159 new speed records with his big racer and his stock car sedan on the Bonneville salt beds in Utah.

He used the same Gulfpride Oil and Gulf No-Nox Ethyl Gasoline that are giving thousands of car owners new motoring economy and satisfaction every day! *The same gas and oil you can buy for your car from any Gulf dealer!*

Gulfpride Oil has unique qualities which make it an ideal lubricant for all operating conditions. It is refined by a special process — Gulf's exclusive and patented Alchlor process — which removes 20% more waste, carbon, gum and sludge-forming elements. The result is an oil of greater stability, greater resistance to oxidation, better lubricating qualities and longer life.

This same refining process is used in the preparation of Gulf's finest industrial lubricants. Thus, operators of steam turbines, air compressors, Diesel engines and many other types of industrial equipment can secure for their engines and machines the same protection against friction, wear and repair expense that Ab Jenkins received from Gulfpride Oil when he made 159 new speed records in Utah. GULF OIL CORPORATION · GULF REFINING COMPANY, GENERAL OFFICES, PITTSBURGH, PA.

GULF INDUSTRIAL LUBRICATION



Many operating men know Fred Harrell for his work in the field where the wheels turn. A 48-hour stretch in a steel mill, days in a coal mine and a holiday in a paper mill digging out operating information are examples of his activities in "recruiting facts for motor design."

FOR MOTOR DESIGN . . .

Here at Reliance they see that we in the Engineering Department lead no life apart. Our sales folks have ready access to us and with their basic training in engineering are accurate interpreters of your needs « « « Furthermore, they keep us on our toes by dragging all of us into the field. There's no danger of our becoming mere "swivel chair" designers. We get first-hand emphasis about new production and maintenance problems as they concern electric motors. All this influences Reliance design with benefit to the user. Improvements are not topics for occasional review, they are regularly before us, and always with an eye on interchangeability. Even in the specifying of routine orders there's a constant, questioning check on motor characteristics, insulation, protective features and so on as they affect the needs of a particular customer and a particular application « « « Such things don't just happen at Reliance — they are held as essentials in doing a good engineering job and building good will.

Fred E. Harrell

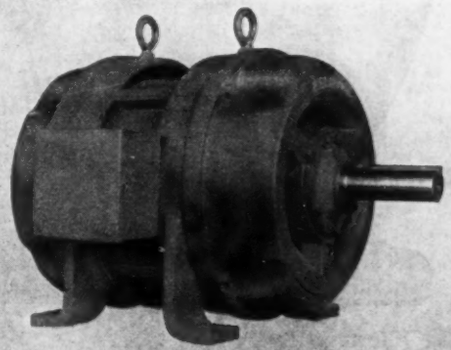
Assistant Chief Engineer

An all-steel frame construction is the groundwork for Reliance Textile Motors. The substantial frame fabricated of bar steel, electrically welded, provides a strong support for the stator core. This is of special importance in textile mills for drives where vibration makes it desirable to have added strength which is obtained without excess weight.

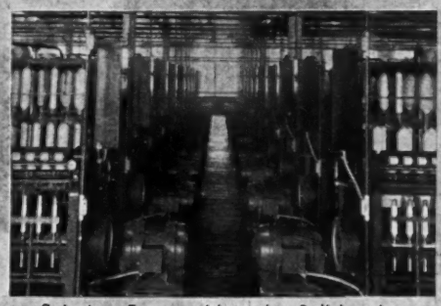
To prevent the collection of lint, the winding connections are covered with a compound which is formed to a smooth, hard surface. Rotors are cast of aluminum so that bars, end rings and fans are a single unit of uniform structure without joints. Fan blades are smooth and plain in design so that lint will not build up. Because of the skeleton bar-steel frame construction, air paths and outlets are extra large. The cooling air passes through the motor with a minimum of restriction and suspended lint goes along with it.

Reliance Textile Motors are supplied with either ball bearings or sleeve bearings.

RELIANCE ELECTRIC AND ENGINEERING COMPANY
1088 IVANHOE ROAD • CLEVELAND, OHIO
Branches: BIRMINGHAM • BOSTON • BUFFALO • CHICAGO • CINCINNATI
DETROIT • GREENVILLE, S. C. • NEW YORK • PHILADELPHIA • PITTSBURGH
Representatives in Other Principal Cities



Type "AA" Ball-bearing A-c. Textile Motor.



Spinning Frames driven by Ball-bearing Reliance Textile Motors.

RELIANCE A-C D-C MOTORS

. . . IS A PROFITABLE PRODUCTION "TOOL"

More than 1,000,000 workers in every branch of industry—and their employers—are profiting through the use of this modern light source. This new "24-hour skylight" produces a soft, non-fatiguing light that reveals detail . . . promotes better work . . . and reduces rejects.

The new Horizontal Cooper Hewitt gives 22% more light from the same wattage. It starts instantly. It hangs horizontally to give the best, the most productive light distribution.

Light is a production "tool"; buy it as such. Have it engineered to fit your specific needs. Insist on mercury light. We will be glad to send a representative to survey your needs and recommend the most efficient installation for your particular requirement. General Electric Vapor Lamp Company, 853 Adams Street, Hoboken, New Jersey.

GENERAL ELECTRIC VAPOR LAMP COMPANY

848-C

THEY CALL IT THE "TREMENDOUS TRIFLE"

Oil—relatively a small purchase...But 110 Industries find in this "tremendous trifle" the way to lower manufacturing costs... Backed up by Socony-Vacuum "Correct Lubrication"

Correct Lubrication Means the Right Oil... in the Right Way ...in the Right Place

A DROP OF OIL! Select the right kind ... deliver it in the right way ... to the right place ... and it may save you thousands of dollars a year!

The amount of oil and grease you buy annually may be *less than ½ of 1% of your total purchases.*

BUT THIS *TREMENDOUS TRIFLE* CAN PROFOUNDLY AFFECT EFFICIENCY AND PROFIT.

It can increase output. Lower maintenance costs. Protect capital invested in production units.

And the slight difference in price between the cheapest oil and Gargoyle Lubricants ... is often multiplied a thousand times by these benefits of CORRECT LUBRICATION.

SOCONY-VACUUM

CORRECT LUBRICATION

GARGOYLE Lubricants

SAVES MONEY FOR INDUSTRY

Read what 71 Years' Lubricating Experience...the Greatest in the Oil Business...can do for You. See Next Page.

1 Careful selection of the right kind of lubricants for all types of power and production equipment... curbing losses and waste of power generated or purchased.

2 Proper methods of application... the right oil in the right amount ...aiding higher machine speeds... minimizing spoilage or rejects...protecting capital invested in machinery.

THE SUM OF THESE FOUR SAVINGS

4

1. REDUCED POWER CONSUMPTION
2. MORE CONTINUOUS PRODUCTION
3. DECREASED MAINTENANCE
4. LOWER LUBRICATION COSTS

= CORRECT LUBRICATION

3 Experience in dealing with individual operating conditions... correction of out-dated practices often resulting in excessive repair and replacement costs.

4 A planned lubrication program ...quality lubricants where necessary...other lubricants where their use will provide economy and not handicap machine efficiency.

SOCONY-VACUUM OIL CO.

INCORPORATED

STANDARD OIL OF NEW YORK DIVISION · WHITE STAR DIVISION · LUBRITE DIVISION · WHITE EAGLE DIVISION
WADHAMS OIL COMPANY · MAGNOLIA PETROLEUM COMPANY · GENERAL PETROLEUM CORPORATION OF CALIFORNIA

GARGOYLE
Lubricants

DYE-HOUSE *Fumes*

AND CONDENSATION AT HOLE PROOF HOSIERY MILLS

Resisted by

TRUSCON *Paints*

● The nationally famous Holeproof Hosiery plant has demonstrated dramatically the protection which TRUSCON paints and enamels offer for industry's most extreme and difficult conditions. Some time ago TRUSCON Fume-Saf White Enamel (Eggshell) was used throughout the entire dye-house. *After several years of most severe exposure* to fumes and condensation, the walls still remain clean, white and in perfect condition.

Other TRUSCON maintenance coatings used in the Holeproof Hosiery plant include Stonetex to damp-proof and beautify all exterior concrete—TRUSCON Bar-Ox Formula "97" Rust Preventative for steel fire escapes and steel sash—Bar-Ox Inhibitive Coating for all steel work.

All TRUSCON paints, varnishes and waterproofings are the result of chemical research and are manufactured in strict accordance with laboratory procedure. That is why for nearly 30 years TRUSCON has been considered the leading technical authority on protective coatings for every variety of surface—interior or exterior. If your building maintenance problem involves any of the requirements here listed, get in touch with TRUSCON immediately. It will pay you.

THE
TRUSCON LABORATORIES
DETROIT, MICHIGAN

Southern Branches:
Charlotte, N. C., 910 Johnston Bldg. • *Atlanta, Ga., 128 Marietta St.*

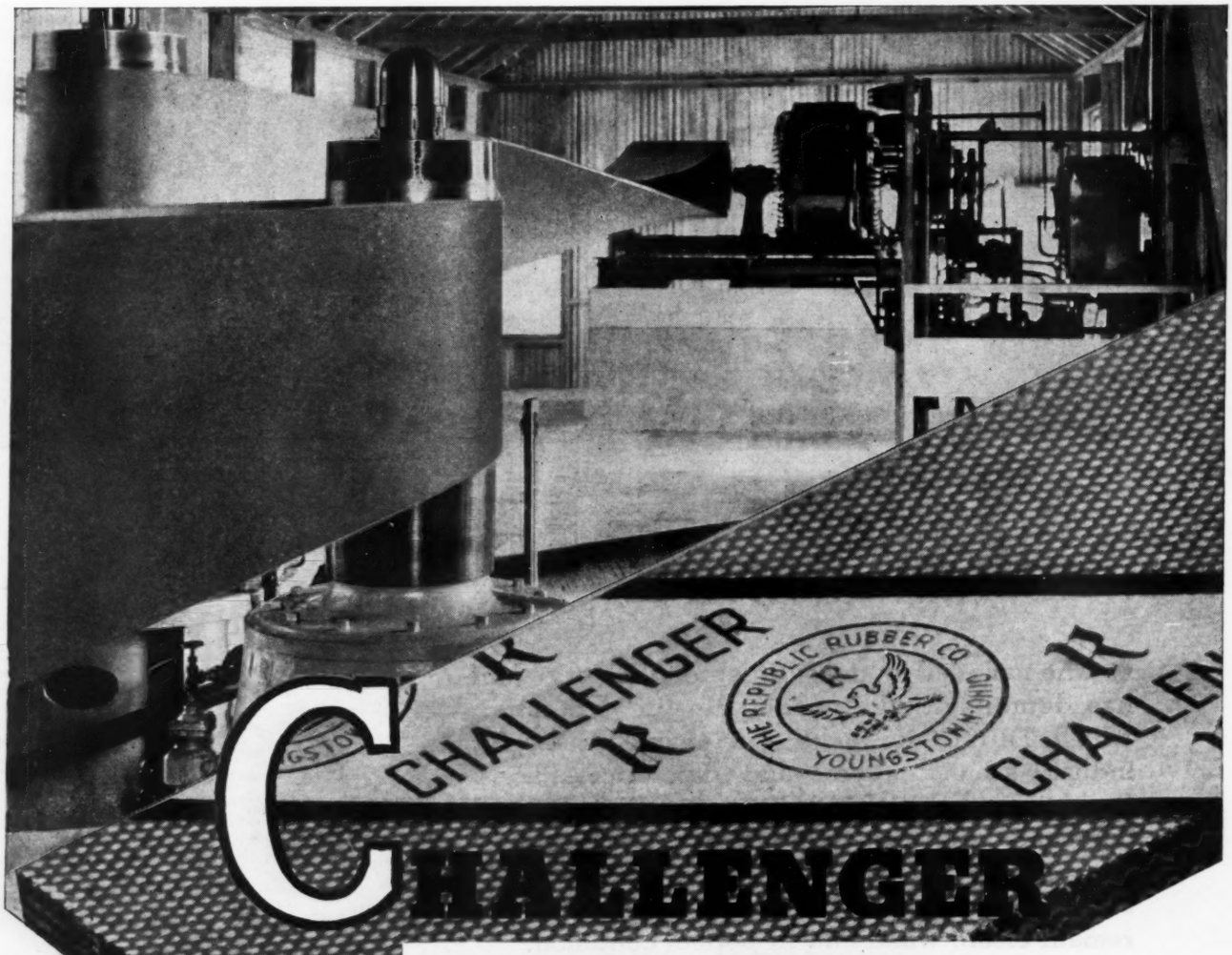
Check ✓

YOUR PROBLEM HERE—

And Mail to Your Nearest TRUSCON Branch or to Detroit

- ☐ Acid-Resisting Enamel
- ☐ Fume-Resisting White
- ☐ Damp-Proof Walls
- ☐ Painting a Roof
- ☐ Slip-Proofing Concrete Floors
- ☐ Paint over Rust
- ☐ Preserving Wood Floors
- ☐ Non-Yellowing Mill White
- ☐ Aluminum Paint
- ☐ Brick and Cement Coating
- ☐ Heat-Resisting Paint
- ☐ Non-Glare Paint for Windows

TRADE MARK REGISTERED



A GREAT BELT FOR STOPPING POWER LEAKS

REPLACE your power-leaking belts on heavy duty or high speed transmissions with Challenger and the power savings will soon pay its cost. Challenger is a powerful, pulley-gripping belt that provides smooth, even tension with minimum slippage and transmits maximum force from one pulley to another. Its extreme low stretch holds that power-saving tension over long periods without take-up. You not only get highest grade transmission but also a marked reduction in belt cost.

Challenger is only one of many grades of Republic Transmission Belting —each built for a particular type of service. Ask any Republic Distributor in your locality for details or write for bulletin "Reduce Power Costs."

REPUBLIC RUBBER

Division OF LEE RUBBER AND TIRE CORPORATION

YOUNGSTOWN, OHIO

Manufacturers of HOSE
BELTING • PACKING
MOLDED PRODUCTS

ORDER REPUBLIC RUBBER PRODUCTS FROM YOUR DISTRIBUTOR

Fulfills a BASIC NEED of the TEXTILE Industry

No workman is needed to keep this motor free from lint and dust —the Allis-Chalmers "Quick-Clean" motor cleans itself. Designed specially for the textile industry, it solves a problem which has troubled mill-owners for many years. The "Quick-Clean" motor has three distinctive features. First, its glass-smooth surfaces give lint and dust no foothold. Second, all working parts are dust-sealed. Third, its big, roomy air-passages let dust and lint get out as fast as they get in, and thus eliminate overheating. Savings in motor maintenance costs are pronounced. Motors are of four sizes—5, 7½, 10 and 15 hp. Standard N. E. M. A. mounting dimensions. Write for new leaflet No. 2241.

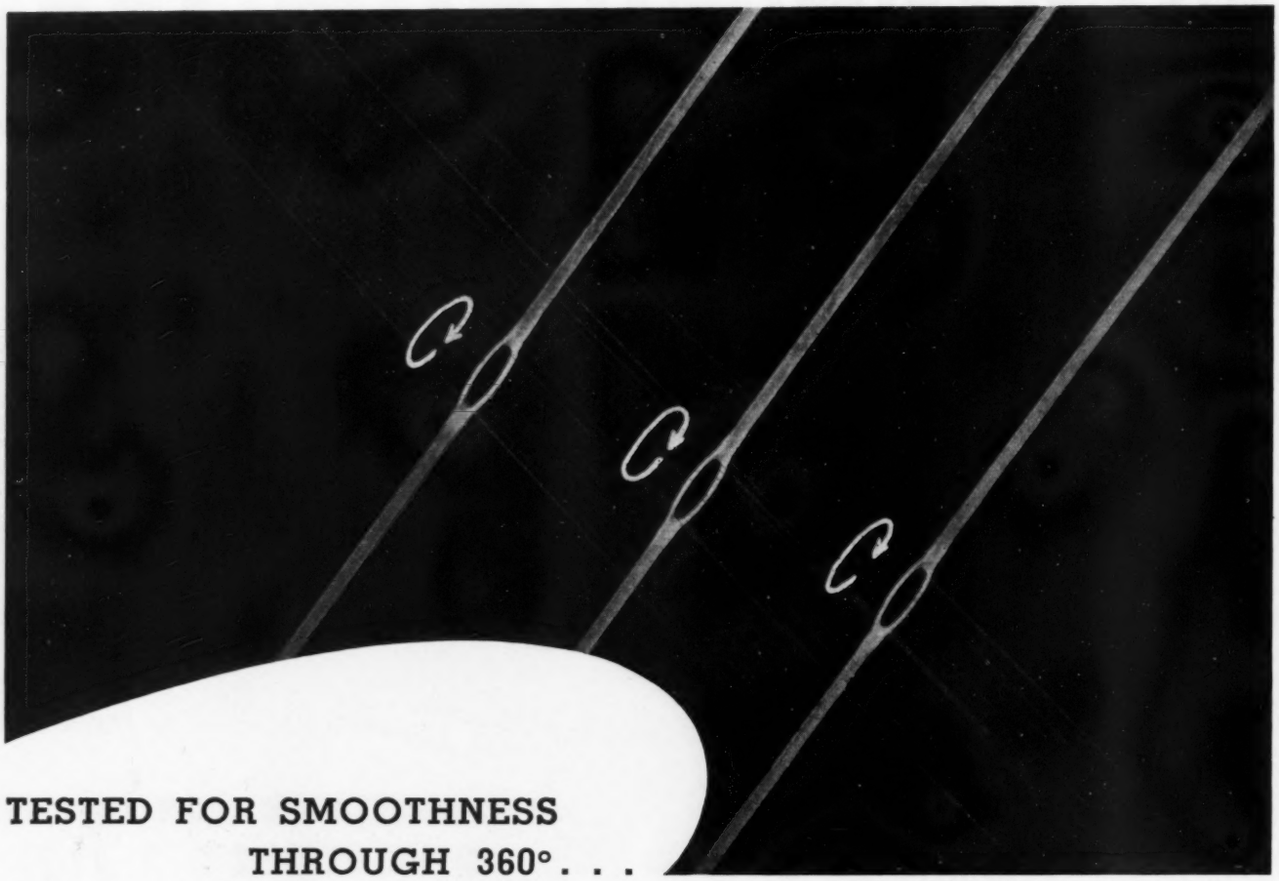
The Allis-Chalmers Manufacturing Company builds standard motors of every type from 1 hp. up—also motors for special application.

811

MOTOR DIVISION

ALLIS·CHALMERS

MILWAUKEE WISCONSIN



TESTED FOR SMOOTHNESS THROUGH 360°. . .

Emmons "Certified" Steel Heddles, checked every month by Pittsburgh Testing Laboratory, get the "smooth eye" test among others. Below, we tell you how it is done to protect your heddle buying.

Among the P.T.L. tests (by which we keep positive control over our manufacturing standards) is the one for eye smoothness. "Certified" steel heddles are mounted on a rack that is parallel to the floor. Then threads are passed through the eyes and weighted on the ends — so that they are under constant tension.

In this position the heddles and the threads have the *same relationship* to each other that they would have in a loom.

The threads are wound around rods which move through an arc of a circle above the eye. Consequently, each thread first wears on *one end* of the eye — then rubs on the *side* — then wears on the *other end*. Thus *all* the eye is tested for smoothness — not just part of it.

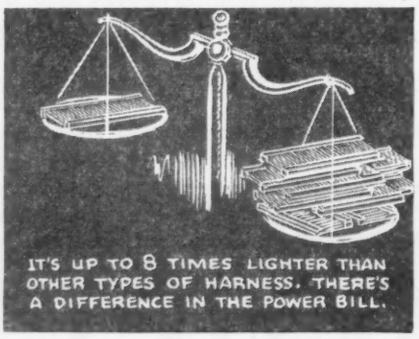
This is just one of the ways we keep informed of "Certified" quality. Not only are we checked every month for eye smoothness . . . but also for tensile strength . . . durability and corrosion resistance of plating . . . and long wear. Those are the important points — producing better, smoother weaving over a *longer* period of time. Those are the reasons so many mills are buying the heddles with the "Certified" tag! Telephone and telegraph orders are accepted collect. Why not place yours today? Emmons Loom Harness Company, Lawrence, Massachusetts.

Emmons

"CERTIFIED" STEEL HEDDLES

CHAFELESS.. LIGHT-WEIGHT.. LONG-LIVING EMMONS "CHAFELESS CORD" COTTON HARNESS

"CHAFELESS CORD" COTTON HARNESS WON'T ROUGH YARN. YOU'LL FIND LESS "FLY" UNDERNEATH THE LOOM



IT'S UP TO 8 TIMES LIGHTER THAN OTHER TYPES OF HARNESS. THERE'S A DIFFERENCE IN THE POWER BILL.

IT'S BUILT FOR LONG-WEAR- LONG STAPLE COTTON, 5 COATS OF VARNISH - HUMIDITY-PROOF DRESSING.

"CERTIFIED" STEEL HEDDLES, "MULTIPLIED YARN SPACE" REEDS, "CHAFELESS CORD" COTTON HARNESS—described in Textile World Yearbook

"It's SALES MANAGEMENT of MONEY — and that makes sense to me"

"LET'S put it this way. We've got a sales force of one hundred men. It's their job to cover the territory. They have to *sell* our products. What would we do if we found that about half of them sat down and didn't make a move for a month or two?"

"That's a silly, hypothetical question but I'll answer it. We'd fire them, of course, and get some new men."

"You're wrong. We wouldn't fire the salesmen . . . we'd fire the sales manager. It's his responsibility—his job to keep the salesmen moving and producing."

"Check. But what has that got to do with the matter we were discussing?"

"Just this. Our business is good. Our receivables are high. Our customers are not discounting. We're passing up chances to open good new accounts for lack of sufficient resources to finance more volume. And why? Because half of our capital, which ought to be working for us, just like our salesmen, is taking periodic thirty to sixty day vacations . . . tied up in customer's stocks or resting in his bank balance . . . working for him until he sends it back to us. Do you get the idea?"

"You bet I do. And I think I get the solution you're leading up to . . . you're thinking about discounting our receivables with Commercial Credit Company."

"That's right. Their proposition is a sound plan for sales-managing our capital. Lots of progressive businesses are using it now. What particularly impresses me is the new LIMITED LOSS clause. It protects us against abnormal credit losses. I'm a hard-shelled conservative when it comes to credit or financial risks, but this new Commercial Credit Company feature makes good sense to me. I'm all for it."

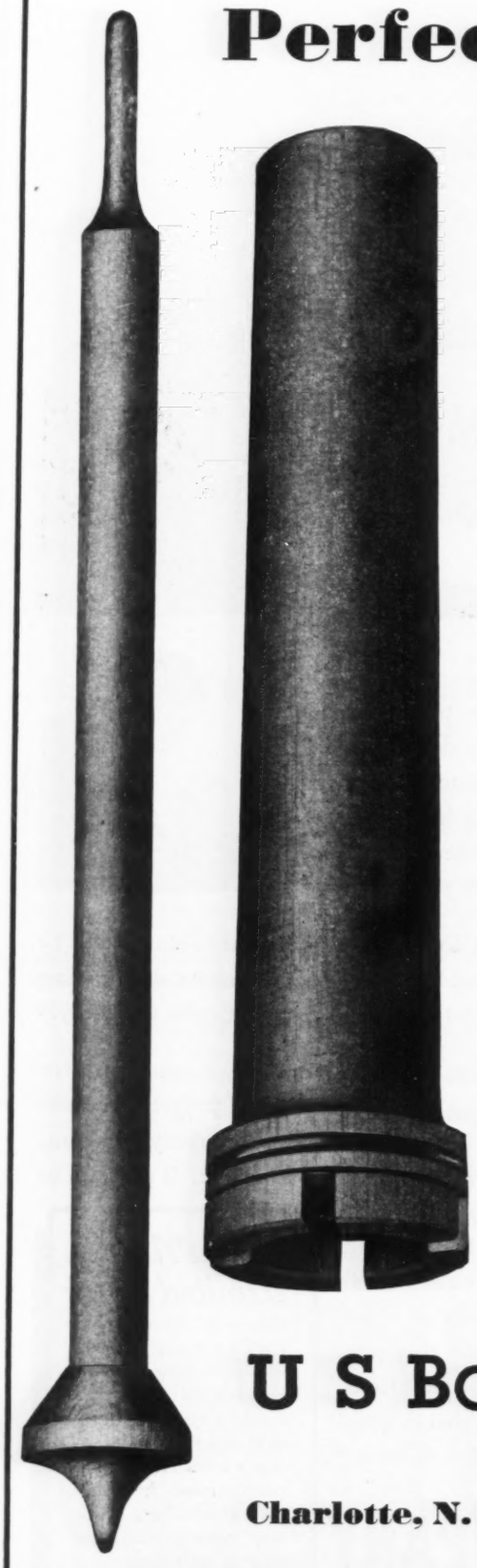
COMMERCIAL CREDIT COMPANY

NEW YORK CHICAGO **BALTIMORE** PORTLAND, ORE. SAN FRANCISCO

The New Limited Loss clause in Commercial Credit Company's plan of discounting accounts receivable makes this modern type of industrial financing interesting and attractive to conservative businessmen everywhere. Why not investigate and see how it will meet your special needs? Full details on request.

Perfect Wood Turning

Gives Even Roving!



EVEN roving of cotton on cardroom bobbins is only possible when the wood has been carefully selected, conditioned and then turned to perfection. Eighty-one years of wood-working experience plus the most up-to-date equipment make it possible for the U S organization to assure accurateness of all wood-turning operations.

To be sure of uniformity, U S Cardroom Bobbins are tested at the factory with a three way gauge and are guaranteed to be within the following limits of tolerance. Speeders, 6″, 7″, and 8″ traverse, are guaranteed not to exceed .0116, and Intermediates and Slubbers 9″, 10″, 11″, and 12″ traverse, are guaranteed not to exceed .0156 either side of the diameter specified. The same careful attention is given to the selection of stock, finish, and spindle, bolster, and gear fits that makes U S products the choice of the majority of mills.

U S Skewers are smoothly turned — do not collect the lint — specially constructed cone base centers bobbins and prevents wobbling.

Ask the nearest U S sales representative to quote on your requirements. All U S products are guaranteed to give satisfaction in operation.

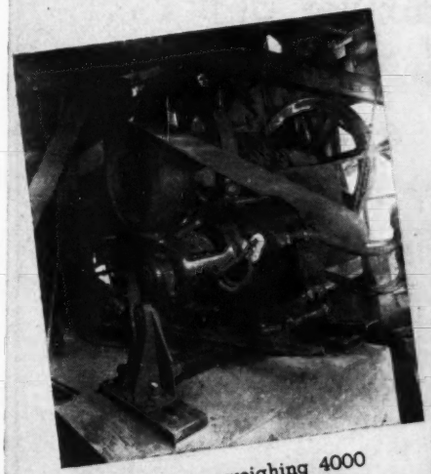
U S Bobbin & Shuttle Co.

MONTICELLO, GEORGIA

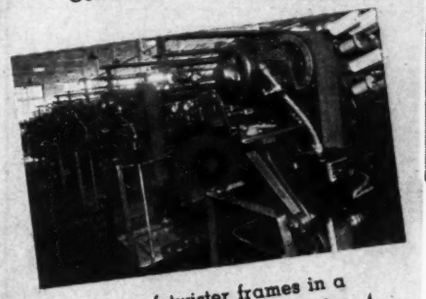
Charlotte, N. C., Greenville, S. C., Johnson City, Tenn.

BETTER BOBBINS • SPOOLS • CONES • SHUTTLES

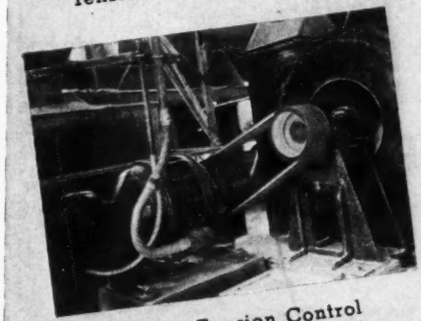
Doesn't this make sense?



150 H.P. motor, weighing 4000 lbs., operating a Jaw Crusher. Mounted on "American" Tension Control Motor Base.



A battery of twister frames in a textile plant, where each motor is mounted on an "American" Tension Control Motor Base.

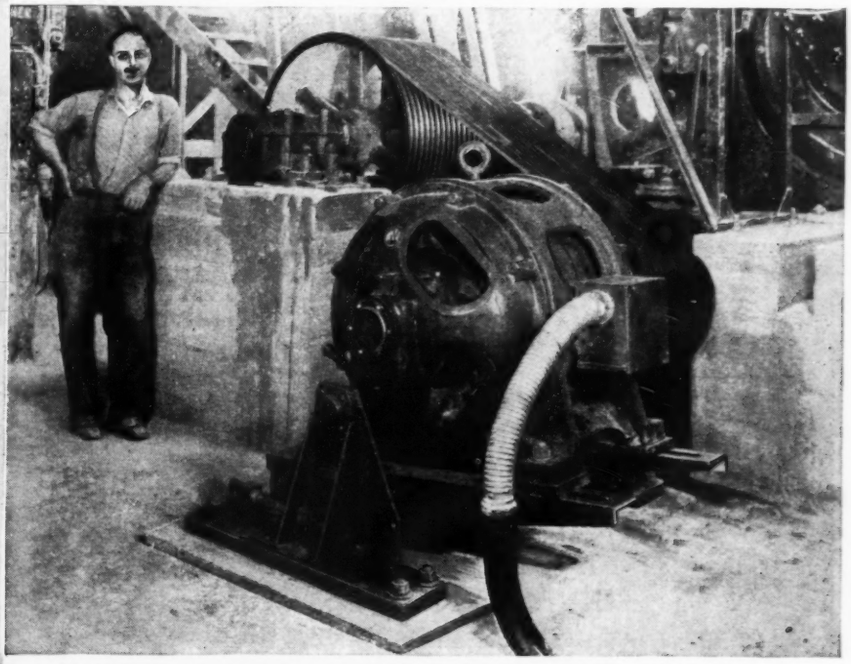


"American" Tension Control Motor Base with "American" Wedgbelt Drive in operation on 100 H.P. fan drive.

WE HAVE repeatedly claimed *and proved* that excessive belt tension increases maintenance and power costs in three ways: (1) shortens belt life . . . (2) shortens bearing life . . . (3) requires more time out for replacements and repairs.

The acknowledged weakness of many short center drives is the fact that belt tensions are necessarily excessive in order to handle peak loads without slipping; and this great tension must be held constantly although peak loads may not occur more than a small portion of running time.

We have proved that belt tension can be *automatically matched to load requirements* if you install the "American" Tension Control Motor Base; automatically because the motor is so pivoted that the natural force called "reaction torque" inherent in every motor is utilized to regulate belt tension as needed. Resultant *decreases* in average belt tension mean substantial *increases* in belt and bearing life.



200 H. P. motor, with "American" Wedgbelt Drive, mounted on Tension Control Motor Base. Belt tension: 2200 lbs. initially, 3800 lbs. at peak load, 5540 lbs. at 100% overload.

IF THE operating conditions are known, the performance of the "American" Base can be predetermined with mathematical accuracy. For example, in the 200 H.P. Drive shown above, equipped with Motor Base, average belt tension is less than 3800 lbs.; without the Motor Base, tension would have to be maintained constantly at 5540 lbs. This represents a reduction of over 31%, assuring longer belt life, longer bearing life, reduced power consumption. But why not let us send you an "American" Tension Control Motor Base on approval? Because "seeing is believing", we are willing that you test its operation and *prove its saving* right in your plant. The risk is ours.

THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE · PHILADELPHIA, PA.

AMERICAN
Tension Control
MOTOR BASE

STAINS
VISIBLE AND INVISIBLE

Cotton impurities include a mixture of nitrogenous compounds which have a strong tendency to coagulate and become set in the goods. They may be invisible but often trap other impurities to form visible stains. Visible or invisible they form resist areas and other defects.

ESKIER is specifically processed and compounded (pats. pending) to anticipate such coagulation and promote uniformly clear and absorbent goods. Later operations and the ultimate saleability of the goods are obviously benefitted.

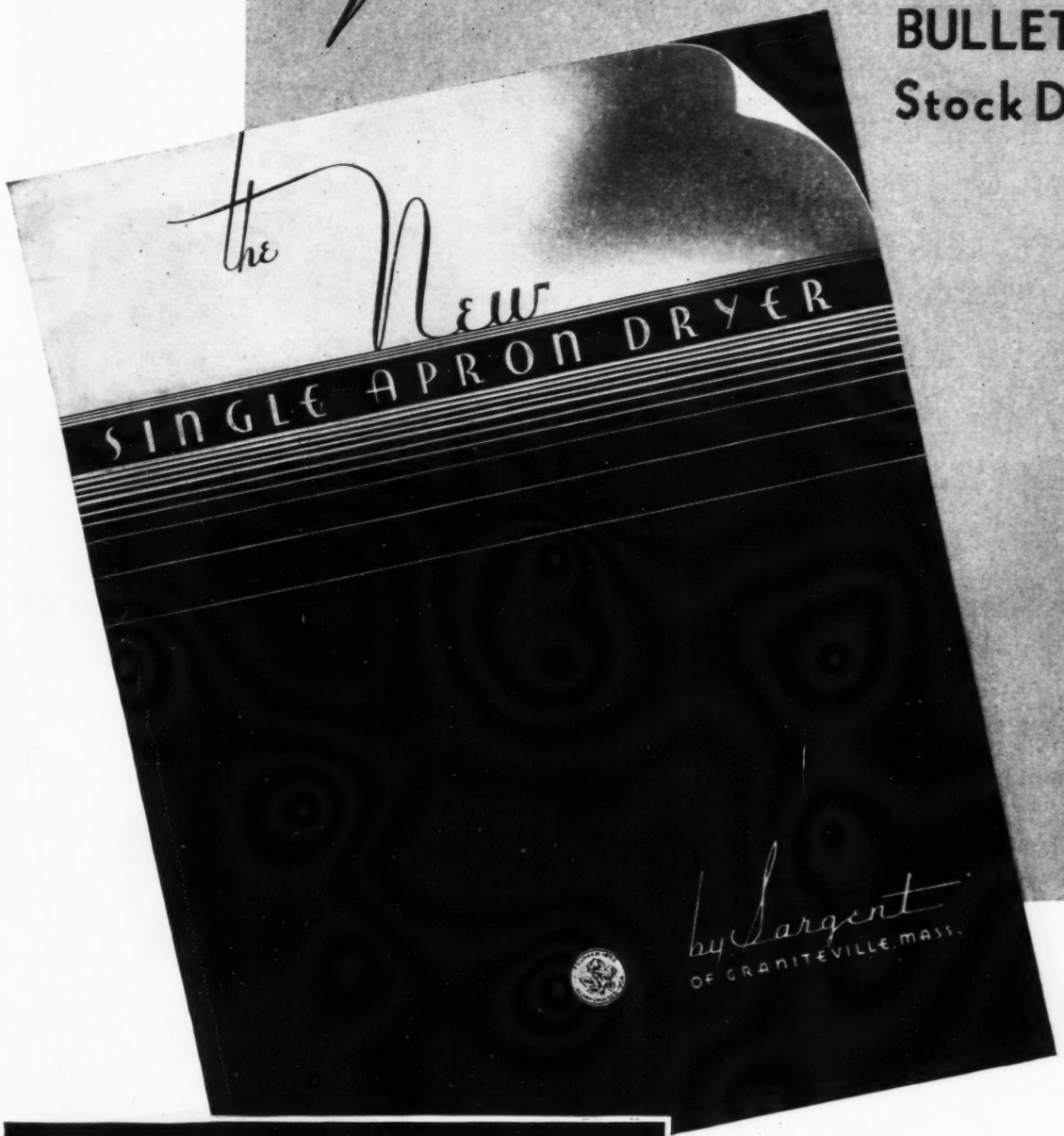
Get ESKIER into your Kier formula.

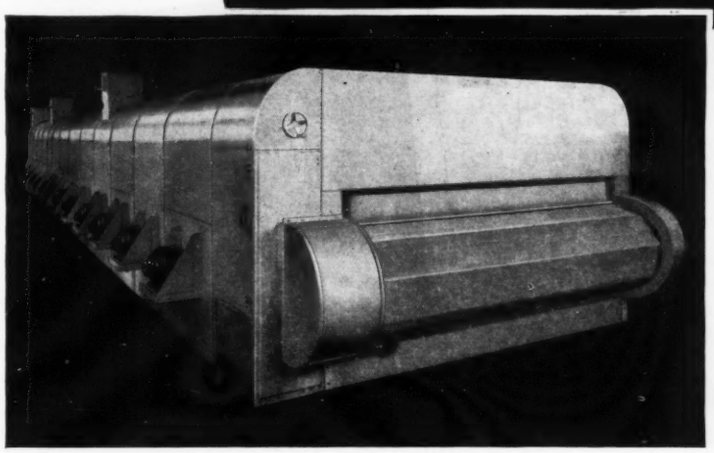
A Cowles Field Service man is available to service your individual problems

THE COWLES DETERGENT COMPANY

10525 CARNEGIE AVE. COWLES CLEANERS CLEVELAND, OHIO

You Should Have This BULLETIN on Stock Dryers

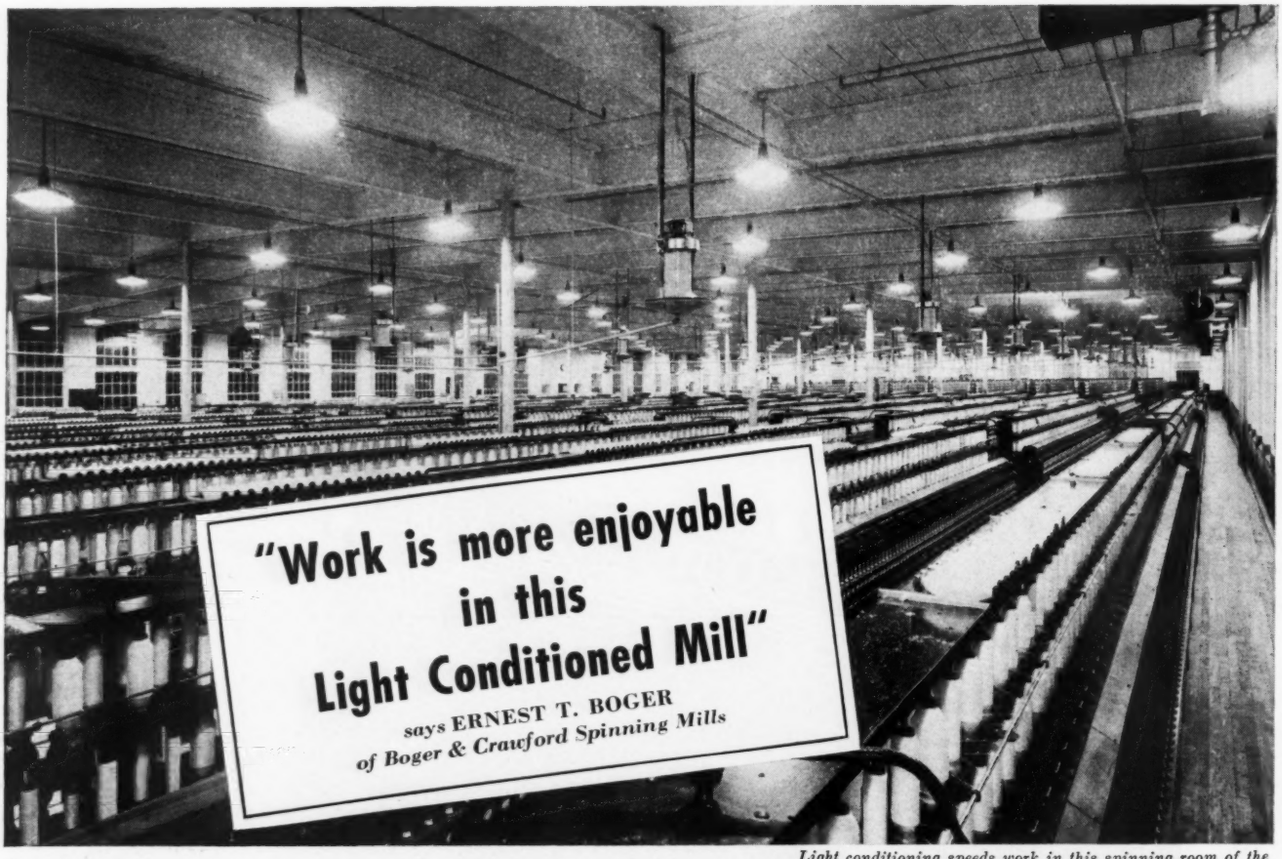




An up-to-the-minute Dryer designed to give the largest capacities in a minimum floor space, and showing decided savings in horsepower and steam consumption. Available in both single and double fan types.

•

C. G. **SARGENT'S** SONS CORPORATION
GRANITEVILLE, MASSACHUSETTS



Light conditioning speeds work in this spinning room of the Boger & Crawford Mills. 300-watt MAZDA *lamps made by G-E in RLM domes provide between 20 and 22 footcandles.*

"Employees say work is more enjoyable since we light conditioned our mills in Boger City, N. C.," according to Ernest T. Boger, manager of the Boger & Crawford Spinning Mills. "They tire less easily and seem more efficient."

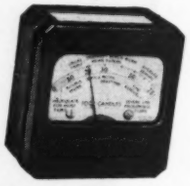
These mills, like many others which have installed better lighting for better seeing conditions, will probably discover that light conditioning offers many other advantages as well, including:

1—Decreased production costs; 2—Fewer "seconds"; 3—Improved quality of goods as a whole; 4—Better supervision; 5—Reduced accidents. In common with many other leading textile mills, the Boger & Crawford Mills use MAZDA lamps made by General Electric to light condition their plant. For these lamps are brighter than ever before and give more light at no extra cost for lamps or current. They *Stay Brighter Longer.*

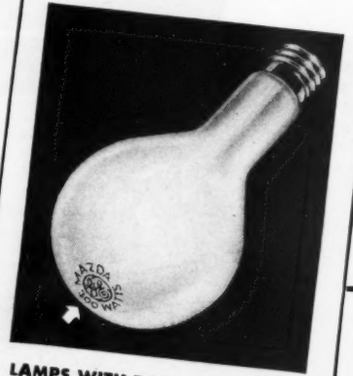
When you light condition your mills, use these new and brighter G-E bulbs. For details on light conditioning, write to General Electric Company, Department 166-C, Nela Park, Cleveland, Ohio.

**Light Conditioning provides the right amount of light and the right kind of lighting for seeing and comfort wherever eyes are used in factories, offices or shops.*

Light Sensitive Cell



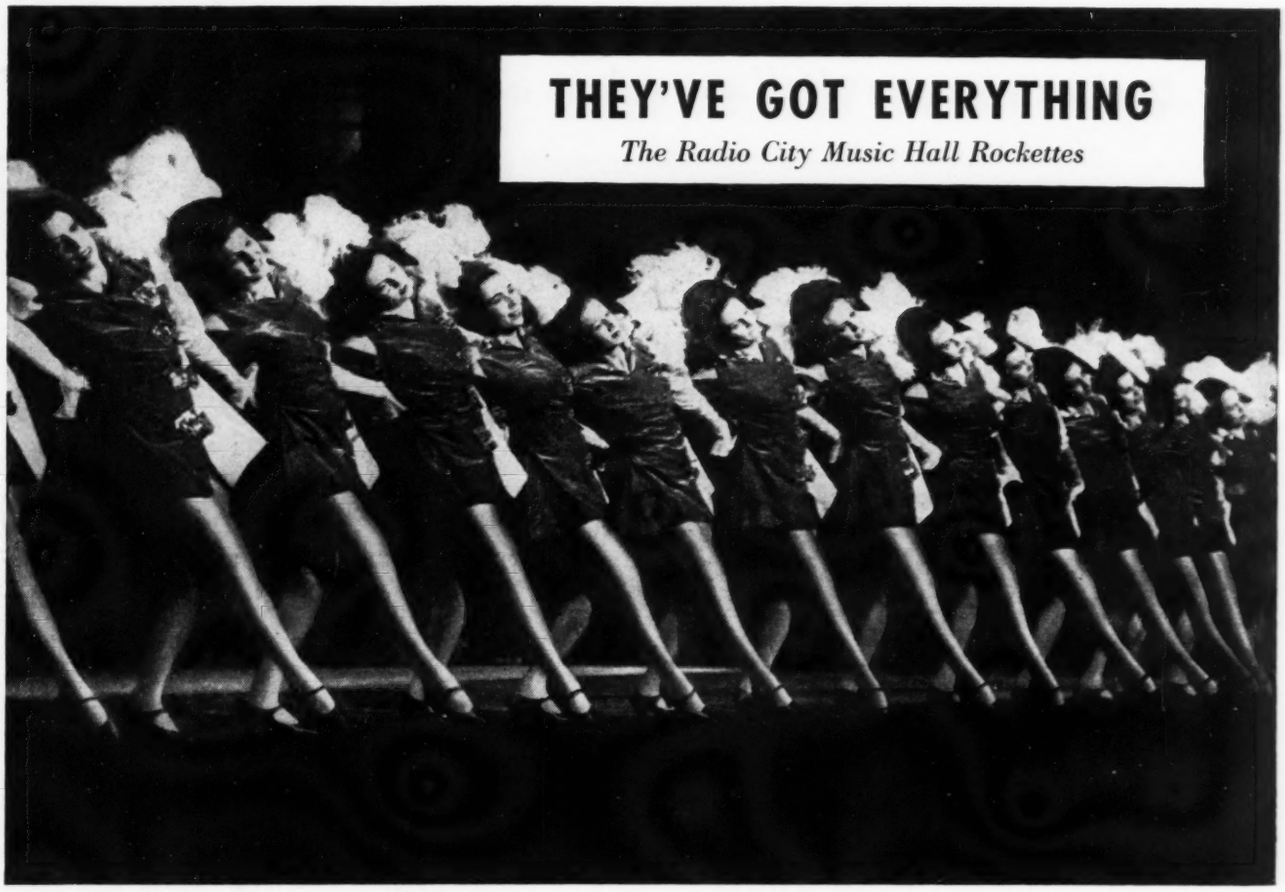
With a G-E Light Meter you can measure the lighting in your mill and see whether it meets modern seeing standards. Costs only $11.50.



LAMPS WITH THIS TRADE-MARK STAY BRIGHTER LONGER

FOR MORE LIGHT AT NO EXTRA COST, CHANGE TO THE NEW AND BRIGHTER MAZDA LAMPS MADE BY

GENERAL ELECTRIC



AND SO HAVE WE...

the hosiery finisher's every need

BOIL-OFF OIL NO. 1 CONC. and Boil-off Oil S-609 (non-silicate)—used in our three-process (degumming, dyeing and finishing) method—afford more level dye shades and better penetration of the dyestuff at toe and heel seams. These oils also emulsify the silk gum, give a more rapid and thorough boil-off and assure greater tensile strength.

PENETRATOR W-888 is a very potent and almost instantaneous wetting-out agent.

MONOPOLE OIL imparts unsurpassed softness and handle to hosiery, produces well-penetrated dyeings, and serves as a good finishing agent.

WOLFCO SOLVENT, for scouring rayon or cotton, gives a good clean ground for dyeing light shades uniformly.

ELEMITE is effectively used for rayon or silk, where only hard water is available.

HOSIERY FINISH NO. 300 and Hosiery Finish B are finishing agents which give body and stiffness and make hose lie flat in box.

DELUSTRE W-716 delustres without stiffening and will not dust off.

SPLASHPROOF W-559—in a single bath—makes all fibres water shedding or water repellent.

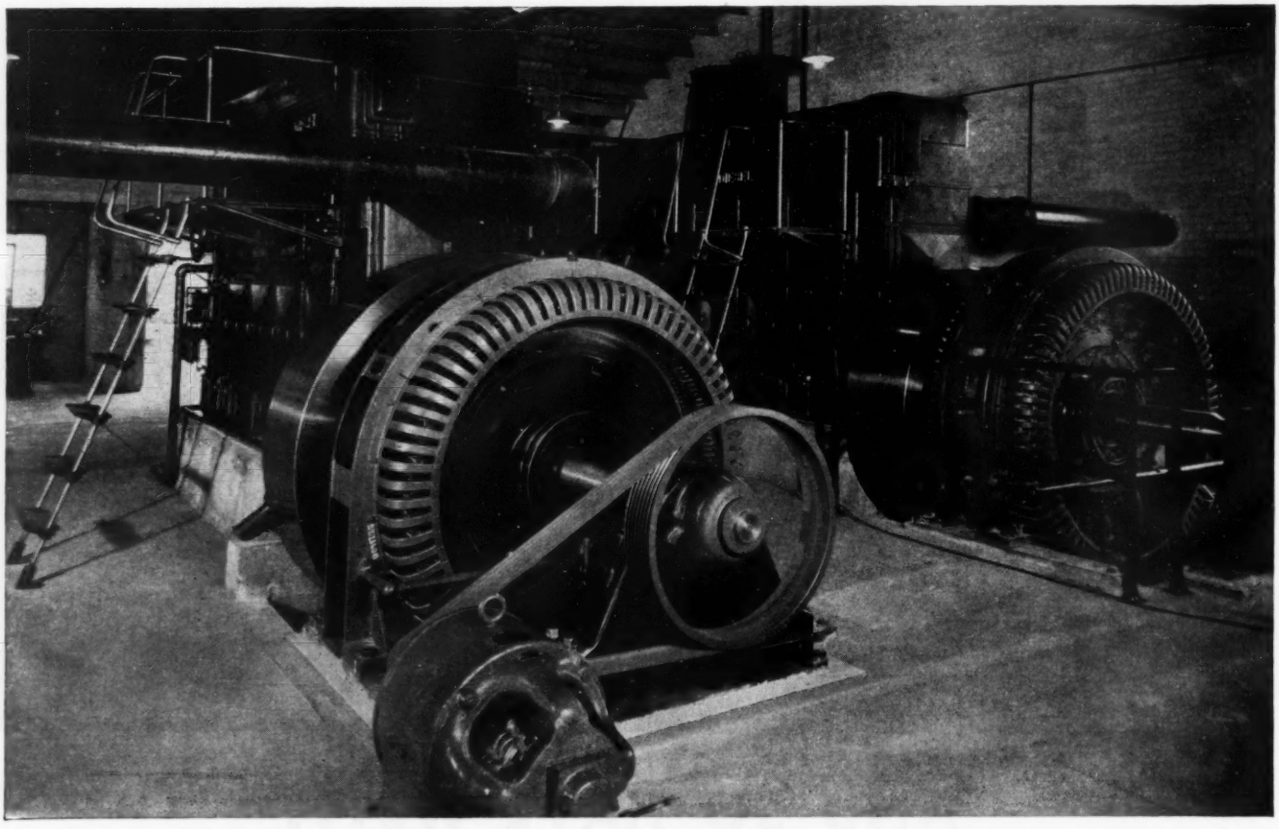
STRIPPER Y and Hydrosulfite of Soda are special stripping agents for use on all fibres and particularly for stripping silk at low temperatures.

JACQUES WOLF & CO.

MANUFACTURING CHEMISTS AND IMPORTERS . . . PASSAIC, NEW JERSEY

Warehouses: **Providence, R.I.; Philadelphia, Pa.; Utica, N.Y.; Chicago, Ill.; Greenville, S. C.; Chattanooga, Tenn.**

Superior Diesels will reduce Power Cost and improve Production in your Mill—and we are spinning no "yarn"!



If you would stop profit leaks in power cost, improve the quality of your product, improve employees morale, and avoid stop and go production—produce your own, unfailing, cheap power with Superior Diesels which will and are producing power at 4 to 6 mills per K. W. H. under the steady, high load factor in textile mills.

Heat your building or heat your water with waste heat from these engines. Have an unfailing and cheap power supply for the homes of your workers.

"Textile World" says, "In production control, first step is to insure steady flow of raw material and yarn to the mill."

We say, "Another important step is to make sure you have unfailing power supply with uniform voltage and frequency to process that raw material and assure uniform quality and production from your machines, uniform earnings for your employees, and the good nature of your mill superintendent."

Get more facts and figures on Superior Diesels as they would apply to your mill.

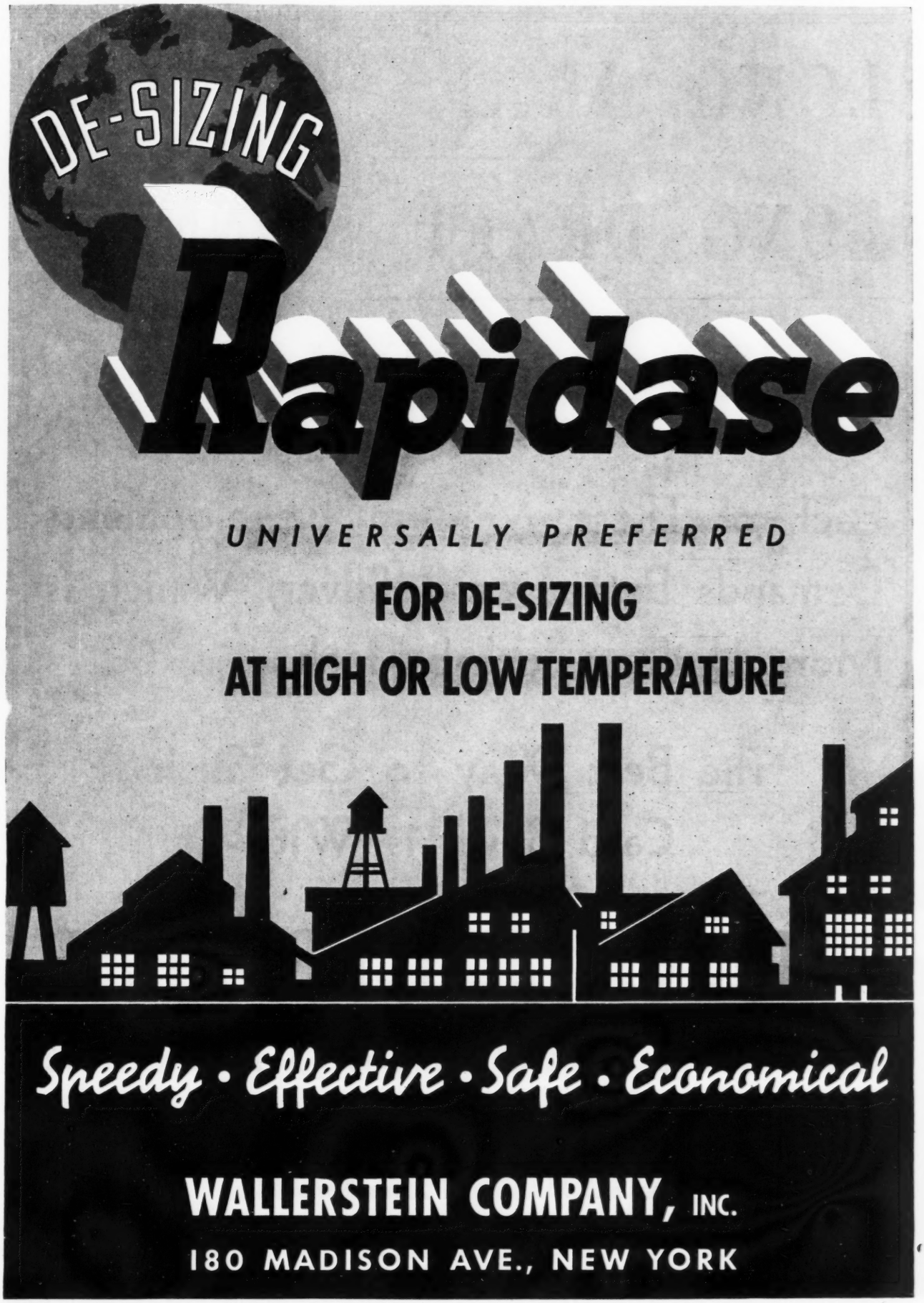
THE NATIONAL SUPPLY COMPANY

SUPERIOR ENGINE DIVISION, SPRINGFIELD, OHIO

LOS ANGELES, CALIFORNIA PHILADELPHIA, PA.

Superior DIESELS

HEAVY DUTY MODELS: 50 to 810 H.P., 250 to 720 R.P.M. • HIGH SPEED MODELS: 15 to 150 H.P., 900 to 1800 R.P.M.


DE-SIZING
Rapidase
UNIVERSALLY PREFERRED
FOR DE-SIZING
AT HIGH OR LOW TEMPERATURE
Speedy • Effective • Safe • Economical
WALLERSTEIN COMPANY, INC.
180 MADISON AVE., NEW YORK

LONG DRAFT ROVING

LONG DRAFT SPINNING

FEWER DOUBLINGS

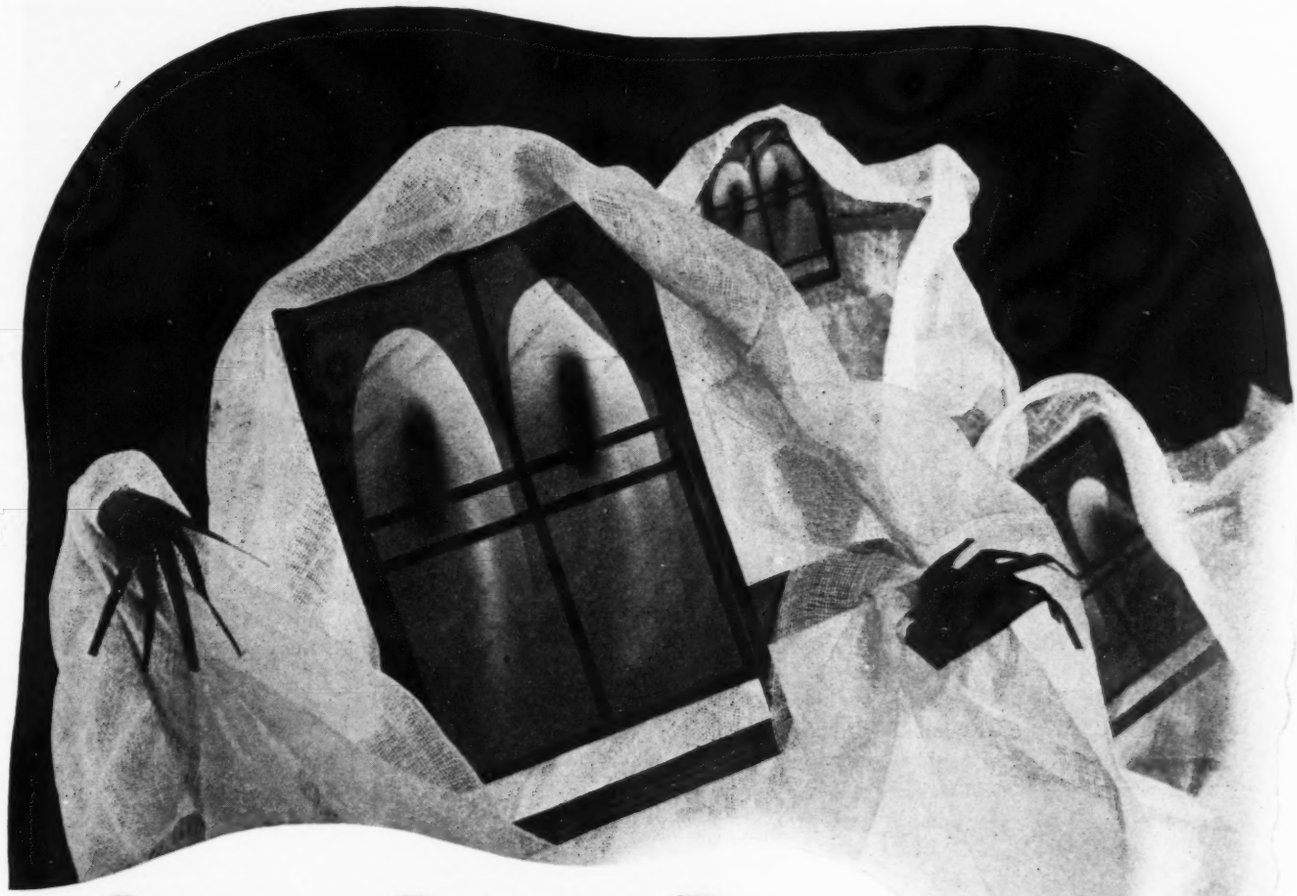
Each of These Modern Developments Demands Better Card Sliver, Which Is More Uniform Inch-by-Inch.

The Best Way to Get Such Card Sliver is With

ALDRICH SYNCHRONIZED SINGLE PROCESS PICKING

AldricH MachinE

Greenwood, **WorkS** South Carolina



Are your Spinning Rooms HAUNTED by Window Ghosts?

Nothing gives a spinning room the jitters any quicker than open windows. For open windows cause local drafts, spotty conditions, ends down, seconds, losses. Production suffers.

But why haunt your spinning rooms with open windows? Install a Parks Automatic Airchanger and keep your windows closed. With the Airchanger you maintain air conditions that are best for your production. You get maximum air change with constant humidity, evenly distributed, and maximum cooling as well.

Remember — a system that just changes the air—is not a Parks Automatic Airchanger system. An Airchanger system must aim at—and secure—constant humidity conditions. And that can't be done by mere ventilation from windows or transoms. The air change must be predetermined and mechanical. It must be balanced with humidity requirements — as it is with the Parks Automatic Airchanger.

The Parks Automatic Airchanger can be used with your present humidifying system. Have a Parks Engineer give you full information. Write or use the coupon.

Gentlemen: Please send me Bulletins on Parks Automatic Airchangers ☐
☐ You may have an engineer call
(Please check)

Name .....
Company .....
Address .....
City .....
State .....

PARKS
Certified Climate

PARKS-CRAMER CO., FITCHBURG, MASS. . . . CHARLOTTE, N. C.

UNIFORM WINDING

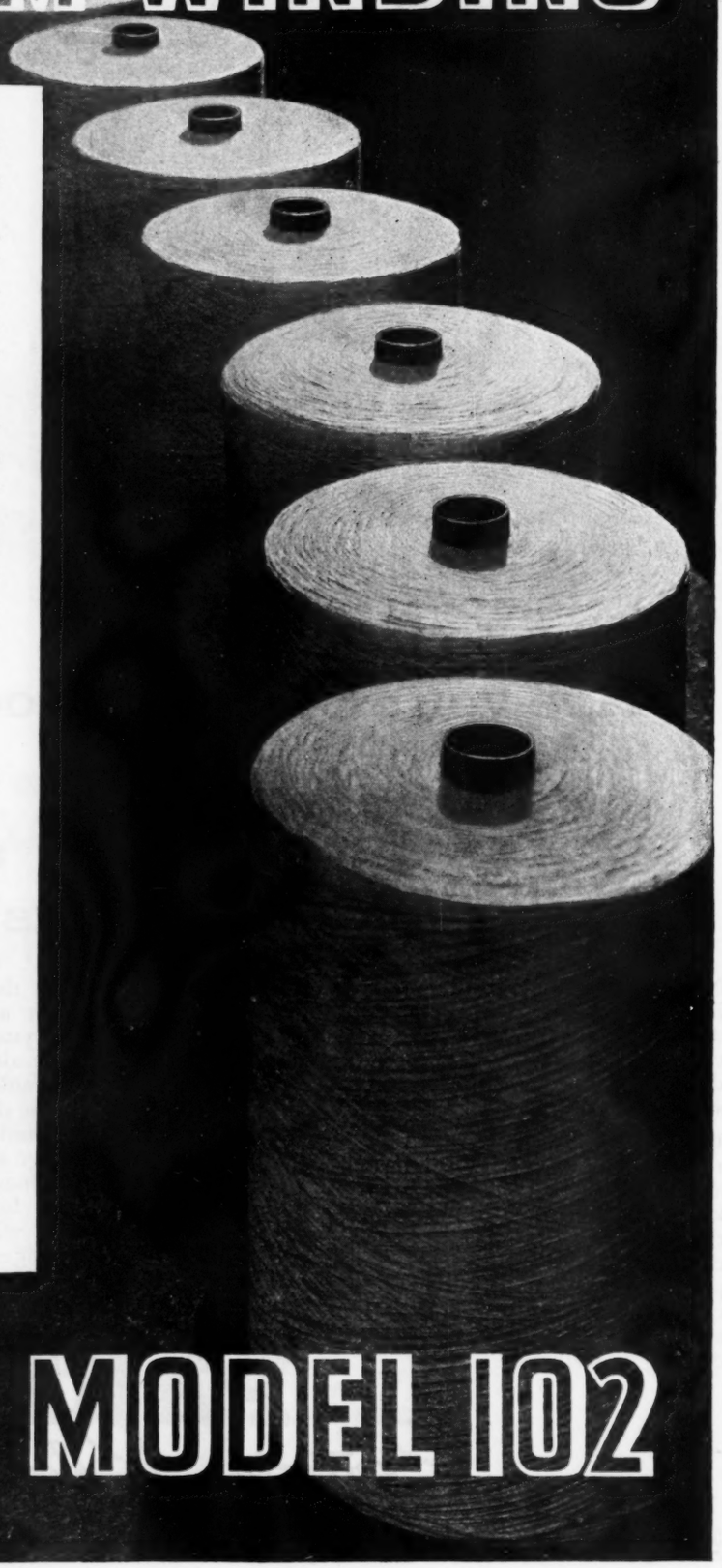
PROMOTES UNIFORM PACKAGE DYEING

One extra soft or extra hard package in a dye lot will usually cause uneven dyeing in every package on that particular spindle. In short, uniform package dyeing requires uniform package density.

The Foster Model 102 gives uniform package density because it rotates the packages at a constant speed, no matter what the diameter, because its traversing mechanism can produce a suitable open wind and because its tension and pressure devices are specially designed for accurate control.

Further details on request

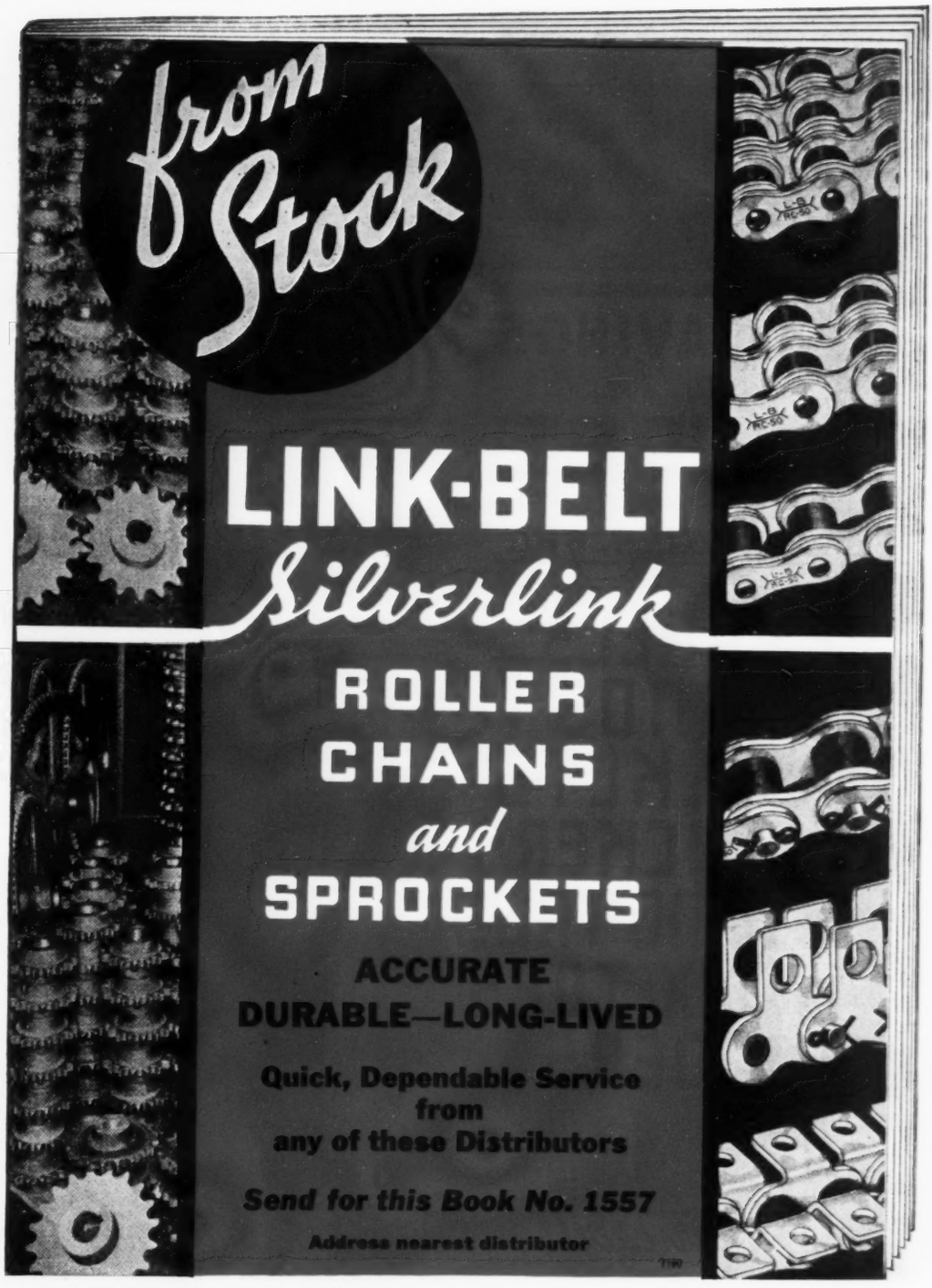
FOSTER MACHINE CO.
Westfield, Mass.
FRED P. BROOKS, Representative
Post Office Box 941, Atlanta, Georgia



FOSTER MODEL 102

LINK-BELT ROLLER CHAIN DRIVES CARRIED IN STOCK BY THESE DISTRIBUTORS:

ASHEVILLE, N. C.
The Tidewater Sup. Co., Inc.
ATLANTA, GA.
Fulton Supply Co.
Link-Belt Company
AUGUSTA, GA.
S. Donald Fortson Co.
BALTIMORE, MD.
The Charles Zies & Sons Co.
BIRMINGHAM, ALA.
Moore-Handley Hardware Co.
SOUTH BOSTON, MASS.
Underwood Machinery Co.
BRIDGEPORT, CONN.
Electric Repair Company
BUFFALO, N. Y.
J. A. Webb Belting Co., Inc.
CHARLESTON, S. C.
The Cameron & Barkley Co.
CHATTANOOGA, TENN.
Mills & Lupton Supply Co.
CHICAGO, ILL.
Chicago Pulley & Shafting Co.
Great Lakes Supply Corp.
Illinois Gear & Machine Co.
CINCINNATI, OHIO
The E. W. Buschman Co.
CLEVELAND, OHIO
The Cleveland Tool & Sup. Co.
COLUMBIA, S. C.
The Tidewater Sup. Co., Inc.
COLUMBUS, OHIO
The Ross-Willoughby Co.
CORPUS CHRISTI, TEX.
San Antonio Mach. & Sup. Co.
DALLAS, TEXAS
Link-Belt Company
Southern Supply Co.
DAYTON, OHIO
The Klinger-Dills Company
DENVER, COLO.
Hendrie & Bolthoff Mfg. & Supply Co.
DES MOINES, IOWA
Electrical Engineering & Construction Co.
DETROIT, MICH.
Link-Belt Company
EVANSVILLE, IND.
Evansville Supply Co.
FORT WAYNE, IND.
Ft. Wayne Pipe & Sup. Co.
HOUSTON, TEXAS
Texas Belting Co., Inc.
INDIANAPOLIS, IND.
Link-Belt Company
JACKSONVILLE, FLA.
The Cameron & Barkley Co.
JOLIET, ILL.
Barrett Hardware Company
KANSAS CITY, MO.
Webb Belting Co.
Stowe Hardware Company
KINGSPORT, TENN.
Slip-Not Belting Corp.
KNOXVILLE, TENN.
Knoxville Belting & Supply Co.
LOS ANGELES, CALIF.
Link-Belt Company, Pac. Div.
MARTINSBURG, W. VA.
W. H. Heiston & Son
MEMPHIS, TENN.
Industrial Supplies, Inc.
MINNEAPOLIS, MINN.
Link Belt Supply Co.
MOBILE, ALA.
Turner Supply Co.
NEENAH, WIS.
J. W. Hewitt Machine Co.
NEW ORLEANS, LA.
R. J. Tricon Company
NEW YORK, N. Y.
Frank Tracy, Inc.
NORFOLK, VIRGINIA
The Tidewater Sup. Co., Inc.
OKLAHOMA CITY, OKLA.
L. V. Hopkins Company
Southwestern Gin Mach. Shops
OMAHA, NEB.
American Machy. & Supply Co.
PATERSON, N. J.
Watson-Flagg Machine Co., Inc.



PHILADELPHIA, PA.
Charles Bond Company
Lamont Gear & Machine Co.
Link-Belt Company
PITTSBURGH, PA.
Colonial Supply Co.
PORTLAND, ORE.
Link-Belt Company, Pacific Div.
PROVIDENCE, R. I.
R. I. Supply & Engineering Co.
RICHMOND, VA.
James McGraw, Inc.
ROANOKE, VA.
Tidewater Supply Co., Inc.
ROCHESTER, N. Y.
Cross Bros. Company
SALT LAKE CITY, UTAH
Industrial Supply Co.
SAN ANTONIO, TEX.
Alamo Iron Works
San Antonio Machine & Sup. Co.
SAN FRANCISCO, CALIF.
Link-Belt Company, Pacific Div.
SEATTLE, WASH.
Link-Belt Company, Pac. Div.
SHREVEPORT, LA.
Pelican Well Tool & Sup. Co.
SPRINGFIELD, OHIO
The Ross-Willoughby Co.
ST. LOUIS, MO.
Briner Electric Co.
TAMPA, FLA.
The Cameron & Barkley Co.
TOLEDO, OHIO
National Supply Co.
TRENTON, N. J.
Wiley-Hughes Supply Co.
TULSA, OKLA.
Marshall Supply & Equip. Co.
WACO, TEXAS
San Antonio Mach. & Sup. Co.
WICHITA, KANS.
Stowe Hardware Company
YORK, PA.
Geo. F. Motter's Sons Sup. Co.

IN CANADA

MONTREAL, QUEBEC
Link-Belt Limited
TORONTO, ONTARIO
Link-Belt Limited
VANCOUVER, B.C.
Link-Belt Limited

IN OTHER COUNTRIES

BOGOTA, COLOMBIA, S. A.
Tulio Ospina y Cia.
BUENOS AIRES, ARGENTINA
General Electric, S. A.
CALI, COLOMBIA, S. A.
Tulio Ospina y Cia.
SAN JOSE, COSTA RICA
Grace & Co., C. A.
GUATEMALA CITY, GUATEMALA
Grace & Co., C. A.
HAVANA, CUBA
Woodward, McMillan & Cia.
MEDELLIN, COLOMBIA, S. A.
Tulio Ospina y Cia.
MEXICO, D. F.
General Supply Company, S. A.
MANAGUA, NICARAGUA
Grace & Co., C. A.
PARIS, FRANCE
C. Comiot
SAN SALVADOR, EL SALVADOR
Grace & Co., C. A.
SYDNEY, N. S. W., AUSTRALIA
Link-Belt Company, Ltd.
THE HAGUE, HOLLAND
James Ruben
TURIN, ITALY
Ditta Antonio Novo

aye, SIR

AND A **SAVINGS**, TOO
with
JACOBS
Individualized

- LABELS
- BANDS
- TICKETS
- STICKERS
- HANG TAGS
- BOX TOPS
- RIDERS

an Inquiry will not obligate you

THRIFT

JACOBS
GRAPHIC ARTS COMPANY
CLINTON, S. C.

SOUTH'S LARGEST COTTON MILL FINDS

6 important savings

IN ALEMITE EQUIPMENT AND LUBRICANTS

What? You doubt that part about fires? Then listen to what the General Superintendent of the Riverside and Dan River Mill says: "We have never had a loom catch fire since using Alemite, where we did average one occasionally when using oil on large 90" looms. Every time a warp was burnt it cost $5.00."

And see the other and even bigger savings which Alemite Lubrication has brought to this mill: "Saving in lubricant cost is a big item," they say, "and there is a big saving in machine repairs as well as in power consumption. The cleanliness of Alemite is a very great advantage!"

Since adopting Alemite Equipment and Alemite Lubricants, this mill finds that the lubrication job is done faster and better, and does not need to be done so often. Three Alemite Electric Power Guns are sufficient to handle all lubrication on their 1308 looms, each loom getting Alemite Lubricant once a week, compared to previous daily oiling.

There is an Alemite System, power or manually operated, which can accomplish for you the same savings enjoyed by scores of mills. And you'll find additional savings in Alemite Lubricants, specially developed for textile mill requirements. Send for your FREE copy of our important manual, "Alemite Controlled Lubrication." Mail the coupon today!

ALEMITE—*A Division of Stewart-Warner Corp'n.*
1884 Diversey Parkway, Chicago, Illinois
Stewart-Warner-Alemite Corporation of Canada, Ltd.
Belleville, Ontario

Enjoy Horace Heidt and his Alemite Brigadiers every Monday evening, CBS Coast-to-Coast Network. See local papers for time of broadcast.

ALEMITE

REG. U. S. PAT. OFF.

WORLD'S LARGEST MANUFACTURERS OF LUBRICATION PRODUCTS

ALEMITE—*A Division of Stewart-Warner Corporation*
1884 Diversey Parkway, Chicago, Illinois
Please send my FREE copy of "Alemite Controlled Lubrication." Dept. K

*Name*_____

*Address*_____

*City*_____ *State*_____

*Firm Name*_____

MELLOL

A Dependable Softening Material

The use of Mellol in finishing operations assures the textile finisher of results that are uniform, efficient, and economical. It produces a most satisfactory finish to cotton, rayon, silk, and mixtures of cotton and rayon piece goods that is free from odors, rancidity, and discoloration.

Manufactured from high-grade materials under strict control, the quality of Mellol is dependable.

The services of our textile specialists are available whenever you desire information or assistance in selecting textile chemicals. An opportunity to aid in solving your finishing problems is requested.

1913 · SERVING INDUSTRY · 1938
25th Anniversary Year

HERCULES POWDER COMPANY
Incorporated

Providence Drysalters Division

Hospital Trust Building
PROVIDENCE, RHODE ISLAND

PM1-19

NOV 19 1937

©C1B 358452

COTTON

Vol. 101 No. 11

NOVEMBER, 1937

IN THIS ISSUE

General and Technical

An Insight into a New Product—Fiberglas for Textiles, by J. L. Tucker ---- 41
A Last-Minute Look at the Wages-and-Hours Bill, by W. M. McLaurine ---- 44
Southeastern Governors Advertise Section's Advantages ---- 46
Annual Meeting of Cotton-Textile Institute ---- 47
An Example of Modernization ---- 49
Methods of Fixing Looms (Article 4), by B. H. Hawkins ---- 50
National Association Meets in Providence ---- 54
Ed Holt Speaks at STA Divisional Meeting; Profitable Discussion at Sedgefield Inn ---- 55
Need for Organized Personnel Department in Textile Mills, by J. O. Thomas ---- 59
Eastern Carolina Men Meet in Durham; Discuss Carding and Spinning ---- 60
Huge Crowd Attends Greenville Meeting of Southern Textile Association ---- 63
Tennessee Division of STA at Knoxville ---- 66
Textile School Views ---- 68
Inspection Tour of Callaway Mills ---- 69

Current Textile Topics

Talk of the Month ---- 70
Curtailment May Rebuff Some of General Slump ---- 70
New England Mill Situation ---- 70
"The Situation", as Seen Across an Executive's Desk ---- 72
Comment on the Cotton Market ---- 76
What the Southern Mills are Doing ---- 78
New Textile Equipment—Publications ---- 80
News Items with a Textile Slant ---- 86
Personal Notes about Men You Know ---- 90
An Old-Timer Says — "The Pleasure of Running a Section" (Part 1) ---- 93

How Other Men Manage

Spinning Room Pointers ---- 97
Replies to "Wash" on Research Department ---- 98
Asks about Slub Filling ---- 99
"Wash" Gives Us a Lesson in History ---- 99
Oil in Yarn is Unnecessary ---- 100
Training Loom Fixers ---- 100
Grain Side of Belt Goes Next to Pulley ---- 101
Warp Slipping on Loom Beam ---- 102
"Trifles" or "Details" ---- 103

Knitting Section

Many Representatives Attend Hosiery Industry Conference ---- 111
An Eye on the Knitting Mills ---- 112
The Maintenance and Fixing of Full-Fashioned Hosiery Machines (Article 4), by A. J. Cobert ---- 113
No Life in Knitted Fabric ---- 118
Fixing Model "K" Machines (Article 7) ---- 119
Narrowing Finger Members ---- 123
Sinkers and Dividers ---- 125
The Knit Goods Markets ---- 126
Review of the Yarn Markets ---- 134

Robert W. Philip, *Editor*

John C. Fonville and L. Meade, *Assistants*

Richard P. Smith, *Advertising Manager*

John C. Cook, *Sales Promotion Manager*

F. Gordon Cobb, *Market Counselor*

W. E. Coogler, *Production Manager*

Editorial and Business Offices
GRANT BUILDING
ATLANTA, GEORGIA

MEMBER OF A. B. P.
MEMBER OF A. B. C.

Published Monthly

ANNUAL SUBSCRIPTION—$1.00
CANADA—$1.50; FOREIGN—$2.00

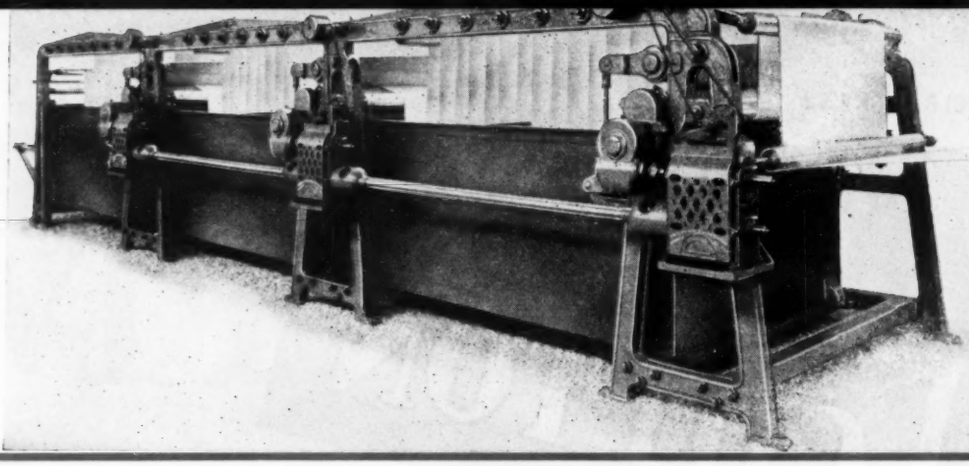
ARTHUR C. SHAW, *Representative*, Wykagyl Garden Apts., North Avenue, New Rochelle, N. Y.
E. A. ROBISON, *Representative*, Hotel Philadelphian, Philadelphia, Pa.
W. S. CUSHION, *Vice-President*, 506 The Arcade, Cleveland, Ohio.
L. E. ALLEN, *Representative*, 1301 Security Bldg., 189 West Madison St., Chicago, Ill.
W. A. MCGEE, *Representative*, Box 562, Charlotte, N. C.
LOYD B. CHAPPELL, *Representative*, 530 West 6th St., Los Angeles, Cal.

Published by
W. R. C. SMITH PUBLISHING CO. . . . . Atlanta and Dalton, Ga.
W. R. C. SMITH, *Chairman of Board* — W. J. ROOKE, *President*
T. W. MCALLISTER, *Vice-President and Editorial Director*
E. W. O'BRIEN, *Vice-President* — O. A. SHARPLESS, *Treasurer*
W. S. CUSHION, *Vice-President* — J. C. MARTIN, *Secretary*

Publishers Also of
ELECTRICAL SOUTH — SOUTHERN HARDWARE
SOUTHERN AUTOMOTIVE JOURNAL — SOUTHERN POWER JOURNAL

Copyright, 1937, by W. R. C. Smith Publishing Company

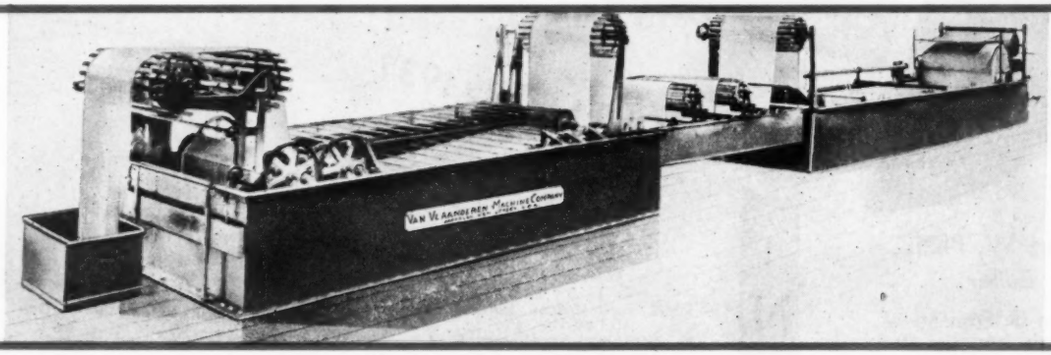
VAN VLAANDEREN



VAN VLAANDEREN

OPEN SOAPER AND SCOURER FOR FLAT WOVEN GOODS of rayon, acetate, silk or mixtures. Full width. Automatic compensation to reduce tension of cloth between rolls is advantageous.

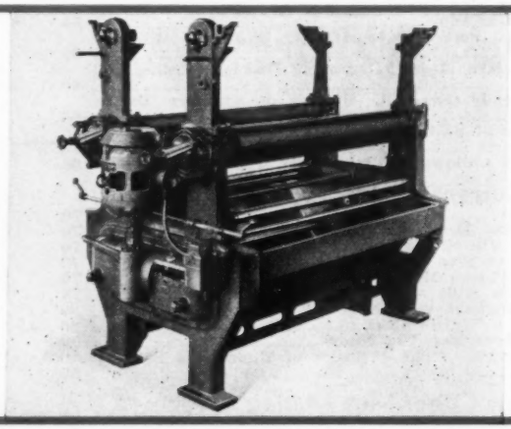
VAN VLAANDEREN



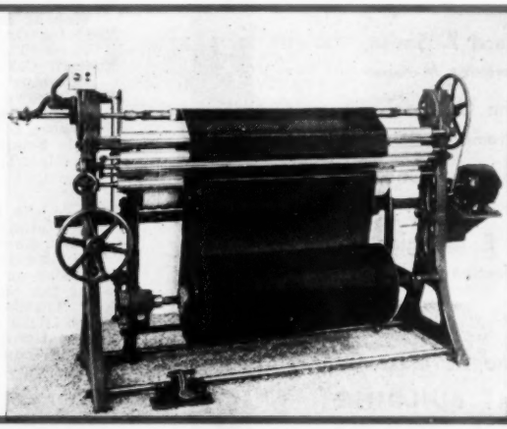
VAN VLAANDEREN

OPEN SOAPER AND SCOURER FOR CREPE WOVEN GOODS of rayon, acetate, silk, cotton and mixtures. Loose, full width type. Patented double conveyor can accumulate goods where time element is important.

VAN VLAANDEREN



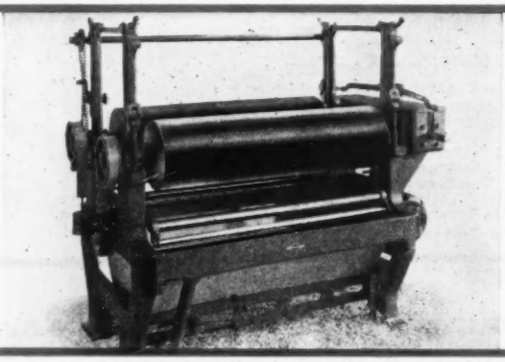
TENSIONLESS, CONSTANT-SPEED DYE JIG
(stainless steel) for acetates and other synthetics harmed by tension. Automatic stop and reverse equipment and large batch rolls optional.



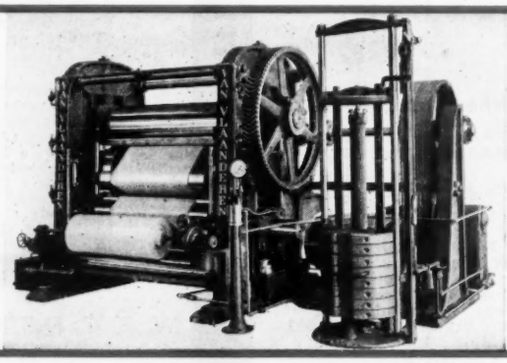
VAN VLAANDEREN

TUBING AND MEASURING MACHINE. Tensionless, accurate measuring and perfect packaging for all cloths. Easy to control. Examining board equipment if desired.

VAN VLAANDEREN



STANDARD DYE JIG WITH LARGE BATCH ROLLS.
This jig has stainless steel tanks and emersion rolls with rubber batch rolls. Independent or multiple drive.



VAN VLAANDEREN

80 TON HYDRAULIC CALENDER for long service under severe pressure loads. Many new features are designed into this new machine.

Write or phone for full data

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, Paterson, N. J.

World's largest manufacturers of silk and rayon processing machinery

Vol. 101
No. 11

COTTON

November,
1937

An Insight into a New Product

Fiberglas for Textiles

By J. L. Tucker

Textile Engineer, Owens-Illinois Glass Company, Industrial & Structural Products Laboratory

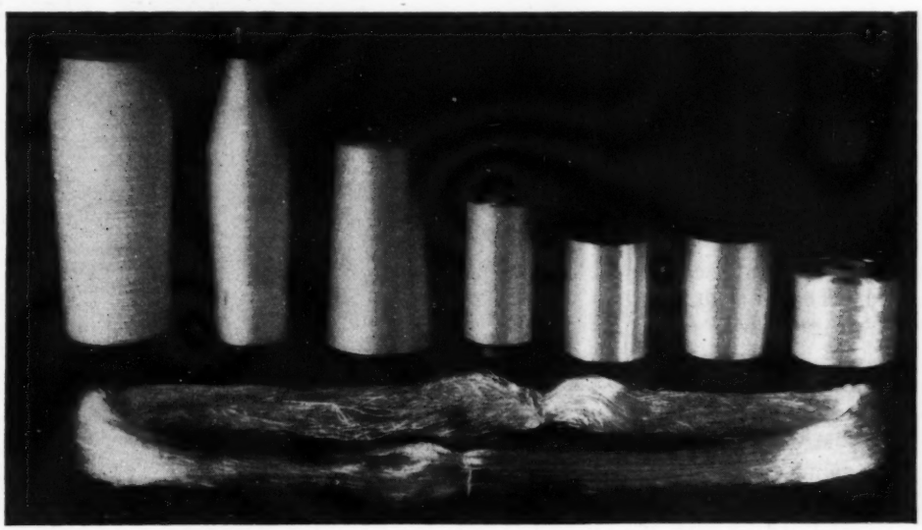
THE advent of a new fiber is always epochal. This article clarifies the matter of glass textile fibers, and gives much information that will interest the textile reader. The author has been associated with the development of this new material from its beginning as a textile fiber, having previously been connected with textiles in manufacturing and machinery work . . . . . .

WHAT is Glass? The dictionary states, "It is a compound of silica with metallic oxides, usually transparent and brittle." What is Fiberglas? It is 100 per cent glass, yet it is not brittle; it is flexible. The yarns can be tied into knots; the woven products can be crumpled in the hands without ruining the products.

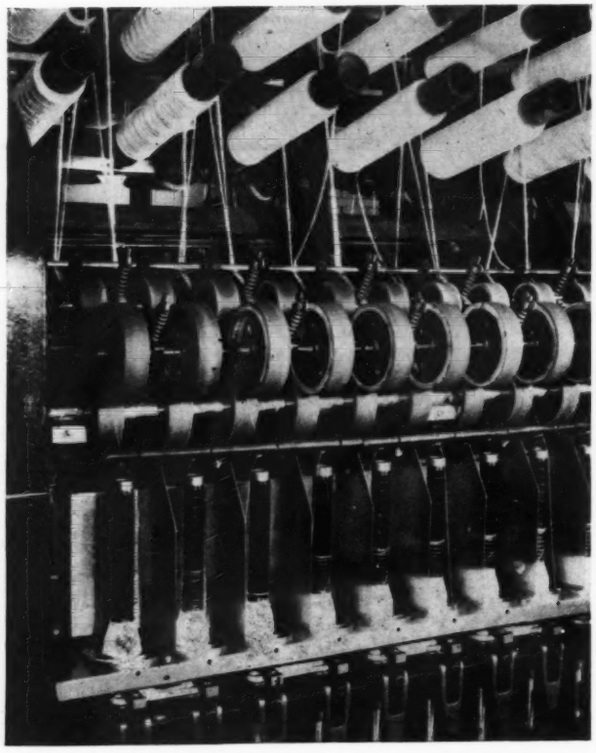
The average textile man when first hearing of any new textile fibers, yarns, cloth, etc., wonders why new products or fibers are necessary in the present textile field, seldom stopping to analyze the shortcomings or limitations of the fibers or products he is using.

In looking over the present new and old fibers, we note their classification as follows: Vegetable, Animal, Artificial, and Mineral. In the past several years more practical fibers or strands have been added to the artificial group than to any other, also more improvement has been made to the commercial fibers or strands of this group than to any of the other groups.

Many individuals have experimented with different methods of fireproofing the standard commercial textile yarns and fabricated products, due possibly to the fact that truly fireproof, heat-resisting and acid-proof products until recently were only made from asbestos, and asbestos (100 per cent) cannot be fabricated into exceptionally fine yarn counts at reasonable costs. In fact, most yarns made from asbestos have from 5 to 20 per cent of vegetable fiber in them in order to allow them to be fabricated. At temperatures of approximately 300 degrees F. they are of practically no value for insulation, unless impregnated with solutions which can assist in withstanding these temperatures. In many cases the impregnating materials withstand high temperatures better than the fabricated materials, although at temperatures of 300 degrees F. for several hours, both the fabricated materials and the impregnated materials are of no real value as insulation, especially on electrical apparatus.



Samples of Fiberglas yarns, including non-drafted and drafted single yarn; two-ply on cone; plied continuous filament yarn on tube; continuous filament strand; two-ply drafted yarn; multiple end-wound package; and a skein of continuous filament yarn . . . . . .



Close-up of Fiberglas spinning frame for staple fiber . . . . . .

Many reading this article will immediately visualize Fiberglas either as similar to spun glass used for Christmas tree decorations or like a container of some type, never considering that possibly there is more to Fiberglas than just a brittle substance or a piece of just "glass".

Fiberglas is made from standard glass formulae; the ingredients used are melted into a molten mass, then the molten mass is formed into fibers which can be made into various diameters desired from .00005-inch or .0003-inch up to very coarse fibers for filtration purposes.

There are two types of Fiberglas for textiles, one of which is staple fiber type, the other continuous fiber type. Both types are processed on standard textile machines into yarns, cloth, etc.

The staple fiber type should receive considerable attention from all textile men, for it is a staple fiber that averages 8 to 15 inches in length, is formed into a sliver without the means of a card, then is drafted on the spinning frame into yarns having as high as 30,000 yards per pound. Doubling takes place merely at the spinning frame or twisting process and there are no intermediate processes between the sliver originally produced and the yarn. The draft on the spinning frame can be changed from 0 to 20, producing yarns far beyond the average reader's conception.

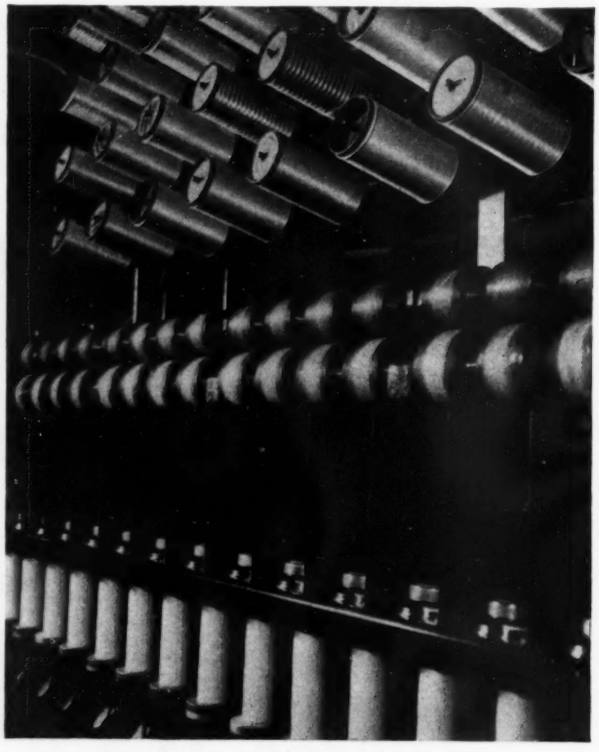
The yarns are either used as produced at the spinning frame or doubled or plied at standard twisting or winding machines. They have strengths exceeding other standard yarns of the same diameter.

The following standard machines are used for producing the products mentioned later in this article: Multiple end winding, warpers, slashers, looms, spinning frames, twisters, winders, and reelers.

The continuous fiber type of Fiberglas is constructed or fabricated similar to rayon, the original strand having 30 to 100 or more fibers and is doubled or plied on standard processes.

The characteristics of Fiberglas that should receive attention from those interested in textiles are as follows:

1. *Diameter:* The diameter of the individual filaments, used for the products that will be twisted or woven, can be made in various sizes varying from .00005-inch to .0003-inch. The fiber diameter used for most of the products at this time averages between .00015-inch to .0002-inch.
2. *Length:* The staple type of Fiberglas fibers averages 8 to 15 inches in length, which allows the sliver to be drafted into finer yarns. The continuous type of Fiberglas fibers has a length depending upon requirements. The fibers can be just as long as the yardage on the individual packages.
3. *Strength:* The strength of the single fiber when calibrated or figured to a square inch basis shows strength in many instances over 2,000,000 pounds, or in other words, many times stronger than the fibers generally used for yarns or fabrics.
4. *Acid proof:* The fibers are acid proof, with the exception of hydrofluoric, and withstand the actions of acid.
5. *Heat or fire-resisting characteristics:* Fiberglas fibers are produced that withstand temperatures up to 1500 and 1600 degrees F. At these temperatures, the Fiberglas merely starts to soften or melt. By combining fibers into strands and strands into fabrics, the resistance against heat or fire would increase.
6. *The Fiberglas fibers or products will not mildew or rot:* Since no vegetable matter or other ingredients are used in the making of the fibers that will deteriorate or degenerate with age, or because of general condition, it will be impossible to rot or mildew the fiber.
7. *Germ proof:* The fibers, because of their com-



Twisting continuous filament strands

Woven Fiberglas, including fancy woven cloth; medium thickness tape; woven webbing; different width tapes from continuous filament; and braided sleeving . . .

position, can be cleaned with acids, soap and water, and cleaning solutions and are, therefore, germ proof.

8. *Permanent colors—most permanent:* The color in the original batch mix; the color is all through the glass and is not a surface color such as a film or surface coating like a dye, varnish, lacquer, etc.; is not affected by heat, light, or weathering; does not run.

9. *Insulation against cold or heat:* Fiberglas fibers and products are efficient insulation against cold and heat and are used in large quantities for many industrial applications.

10. *Good dielectric characteristics or electric strength:* The characteristics of the glass can be changed to vary the dielectric strength as desired.

11. *Electric resistance or resistivity:* It is exceptionally good; better than other commercial fibers used at present.

12. *Effect of high temperatures on strength of Fiberglas:* When tested against standard types of tapes and woven insulation, it stands up under high temperatures. Such temperatures as 300 and 600 degrees F do not affect it. Varnishes and lacquers have been burnt off Fiberglass tapes without affecting the tape to any extent.

13. *Processing of Fiberglas into yarns, braids, fabrics, etc.:* With practically no changes in standard textile machinery, the Fiberglas can be processed on roving, spinning, twisting, winding and braiding machines; also, on looms and knitting and sewing machines. The standard textile processes that can be used with very little changing, include such machines or processes as spinning, where it can be drafted; twisting, where the strands can be plied; slashing or dressing, where the strands can be prepared for weaving; weaving, where the strands are woven into fabrics or tapes; finishing, where the woven fabrics are washed and prepared for marketing, etc.

14. *Non-Ferrous:* The Fiberglas fibers or glass formulae are free of any iron and, therefore, can be used or applied where no other product has been as practical and as efficient—such as electrical insulation.

15. *No other textile fibers are mixed with Fiberglas* in order to produce the finer yarns and fabrics. Where asbestos is to be spun into fine yarns, in most cases where it is to be woven, 5 per cent to 20 per cent vegetable fibers are mixed with the asbestos, or in other words, vegetable fibers are mixed with mineral fibers. Fiberglas needs no other fiber added, even in producing .005-inch thick tapes or fabrics; the yarns used are 100 per cent glass.

The Fiberglas products that are practical and being produced in commercial quantities at this time are:—

1. *Tapes for insulation purposes,* such as electrical application. The tapes are woven in thicknesses from .005-inch to .025-inch or thicker, and have a high sheen or a soft appearing luster. These tapes have good flexibility and are applied similar to standard methods either by hand or machine.

2. *Cloth or fabrics for insulation purposes,* such as electrical insulation. Where fabrics, similar to varnished cambrics are needed to cover cable, Fiberglas fabrics are practical and efficient.

3. *Bags for filtration* where it is necessary to resist high temperatures, gas fumes or acids. These bags are woven or knitted from 100 per cent Fiberglas yarns and are not affected by heat, acids or gases.

4. *Filters for pigments, acid or chemicals, gases, etc.* Normally, cotton fabrics, asbestos fabrics, or wire-woven products are used for filtration purposes, but these items do not stand up in many instances, having to be replaced often—in some instances, within a few hours. Fiberglas fabrics are being used and tested for filtration purposes and appear to be practical and efficient at a reasonable cost.

5. *Draperies—fireproof type, also for decorations.* In that the Fiberglas fibers can be spun and woven into fabric, in that they are fireproof and in that color effects can be produced and colors are permanent, they can be used in producing draperies or curtains that not only appeal to the eye but are most practical.

6. *Screens, such applications as movie screens, fire screens, etc.* Tests are being made on the use of Fiberglas fabrics as screens, in that this fabric has a sheen or luster all its own; also, can be woven into different weaves, and this should make it practical as a screen.

7. *Awnings—fireproof.* In that awnings in many cities are not allowed above a certain floor unless fireproofed in some manner, Fiberglas, therefore, can be made into not only fireproof awnings, but with color effects that will appeal to the eye.

8. *Decorations (interior, etc.).* Used for wall decorations, costumes, pictures, table pads, trays, etc.

9. *Fabrics for insulation (firemen's clothing, etc.).* In that the Fiberglas can be produced or fabricated into woven fabrics, and in that Fiberglas yarns or threads are being used in sewing machines, fireproof clothing is another practical product.

10. *Slivers for insulation or covering for wires, cables.* Fiberglas slivers are being used for covering wire, and its thickness is approximately .003-inch to .004-inch.

11. *Yarns and rovings for insulation.* Fiberglas yarns and rovings are being used for wire and cable insulation.

12. *Braids or sleevings.* Fiberglas yarns braided into sleeving or onto a wire or cable. Special braid lines have been made from Fiberglas (fish-lines, etc.).

(Continued on page 102.)

A Last-Minute Look at the

Wages-and-Hours Bill

By W. M. McLaurine
Secretary-Treasurer, American Cotton Manufacturers Association

ABOUT the time you see this, Congress will be entering upon its special session. Wages-and-hours legislation is on the "must" list, after having been foundered on the rocks of southern opposition last session, following passage by the Senate.

You have already read reams on the subject. This discussion, from an eminently authoritative source, states the case very clearly—and demonstrates the author's position on the matter. It also directs attention to authoritative testimony in connection with freight rate differentials, which is another subject of paramount interest at the moment.

THE TEXTILE INDUSTRY believes in a fair wage and a reasonable work week, the elimination of minors under 16 years of age from industry, and good working conditions. For the most part the textile industry has rather rigidly observed the so-called code standards up to the present time, and wages now, on the average, are better than they were during the code days.

Mill men sense the social and economic trends and are endeavoring as rapidly and as intelligently as possible to keep step with present demands. They are not ultra-conservative or opposed to progress that is reasonable and attainable.

The industry, for the most part, is opposed to the wages-and-hours bill as passed by the Senate and as modified by the House, because they honestly feel that its enactment will prove harmful, to both employers and employees. The ideal of the wage-and-hour theory is a dignified and social concept of indisputable value. The practicability of writing a law incorporating the ideal into concrete plans and purposes is as dangerous as the ideal is appealing.

Industry is too complicated and complex; there are too many factors in too many areas; too many divergent conditions. The textile industry, within its own domain, is highly involved and widely conditioned. In its relationship to other industries, a still greater condition of complexity arises.

The U. S. Census of Occupation reports gainful workers in 625 classifications; the U. S. Employment Service now uses 6300 separate occupational classifications. Now follow these two statements with the fact that the bill provides that 15 differentials may be considered in fixing wage rates:

"(1) General wage level (4c).
"(2) 'Minimum standard of living necessary for health and efficiency' (4c).
"(3) 'Opportunities for employment' (4c).
"(4) 'Cost of living' (5a).
"(5) 'Value of the service or class of service rendered' (5a).
"(6) 'Wages established for work of like or comparable character by collective labor agreements' (5a).
"(7) 'Annual wage income' (5a).
"Query.—Does the $1,200 'annual wage income' relate only to wage fixing where the Board finds collective bargaining 'inadequate' or 'ineffective' (5a)? If so, is there any general limit on the minimum to be fixed in other cases under the bill? Again, it is not clear that either this or other differential bases (8, 9) apply to work which is customarily seasonal in character.
"(8) Special character of the employment (6c).
"(9) Special term of the employment (6c).
"(10) Qualifications of the employees (6c).
"(11) Localities (12-5).
"(12) Population of communities (12-5).
"(13) Number of employees employed (12-5).
"(14) Nature of goods produced (12-5).
"(15) Volume of goods produced (12-5)."

Can five men, any five men, in this nation handle such a problem as this with any possible degree of sense and justice? The possibility of failure and confusion looms so great here that any reasonable man would go no further in his considerations. The economic life of this nation hangs on too many delicate threads to intrust its life into such a nest of disaster.

Life in all of its phases is elastic, it does not lend itself to rigidities. Man's social and spiritual life is a variable whose probabilities have never been determined. Our progress this far has been possible because of the possible variations in social and economic life. The end of progress has not arrived.

The hour control is also a part of this bill and there are at least two phases connected with this theory: (1) The increasing of employment; (2) The securing of a fair work day for the average worker, in order that he may preserve his health and secure proper leisure for social growth and civic enjoyment. No one finds any fault with the objectives set up by these ideals. They are fundamental in the minds of every employer and employee and all progressive citizens glory in their emotional consideration.

Again, we find the facts of science and the facts of social advancement rather menacingly challenging the wisdom of rigid law administered by five men, who regardless of their prominence and sense of justice and desires, are absolutely incapable of fixing fairly the problem of hours and effecting the increased employment and increased civic enjoyment anticipated in the bill. The demised NRA, with its ghost still stalks through the land and it had thousands of men working on the problem of hours and still the problem is unsolved as the intent of this bill indicates.

An enlightened conscience will do more to solve these problems and make public approval more powerful than any legal mandate. The employer is not only sensing the civic and economic responsibility of his industry, employees have awakened to certain civic responsibilities and they are now trying to assist in the plan and program of national progress. It is but natural to suppose that both employers and employees will have erroneous judgments that must

be tried out and corrected, but as long as there is elasticity of action and human responsibility there will evolve a modification that will bring progress. In this scientific age when people are obsessed with the unerring reactions of material things, too many people think that the law of science will apply in the social field—the realm of human beings—such a thought is dangerous and highly fallacious.

National solidarity is a result of the solidarity of all of the groups and local conditions in the nation. The state is not the entity of a democracy; the welfare of the individual is the unit to be considered.

It is unnecessary to discuss the provisions of the bill relating to prohibition of minors under 16 years of age from industrial jobs, as that is a general public policy and insofar as the textile industry is concerned, it is inconsequential as that policy is now a part of the general industrial policy of the industry. But very few minors under 16 years of age are employed in the textile industry and these are used under protest of management. They are employed under the provision of the state laws and because of some peculiar or extraneous demand or some outside influence.

At the present time, the textile industry is being besieged from within the nation and without the nation by intriguing and harassing competitions. Competitive fibers and synthetic fibers, and changes in scientific development, state laws and national laws are sweeping over the industry with a plague of problems that are thoroughly disturbing. The competitions from other nations, both in quantities imported into this nation and in the drying up of foreign markets, which once this nation supplied, place this industry in a position in which if straight-jacketed would prove disastrous. The unwise administration of this bill would result in economic dislocations that would produce confusion and might bring disaster.

Again this administration has set up certain legislation for the benefit of labor which to some seems unfair in the sense that it is biased and prejudiced in its application and does not accord equal rights to the employers and the public. It is not necessary to go into a discussion of this question other than to project it as a disturbing influence, destroying in a large measure some of the fine industrial relations that once existed between employers and employees, in many places. The employers and employees now are trying to find out how these laws can be used constructively rather than destructively. Labor and capital have not only had many sore spots to develop but even in the ranks of labor there has occurred a breach and now two very dominant schools of thought. In the meantime, the public is dazed and wondering what it is all about and why prices of necessities rise to unattainable heights.

There is now a great social and economic conflict with no rigidity of legal enactment of wages and hours with their far reacting implications. Industrial relations are greatly disturbed and in too many places where this conflict is raging, class consciousness has appeared. Industry can not progress with its two great components warring with each other. This conflict is far from settled and yet this wages-and-hours bill, with its many entangling implications, with its impossibility of fair administration, with an opposition by employers and with a lukewarm endorsement by the two great labor factions is being advocated to further disturb an ever-widening conflict in the field of industrial relations. The idea does not make sense. A nation can not be forced in its growth. It must grow normally and be able to digest its social and economic expectations and requirements.

These statements are general in this discussion. To try to go in to specific details would require volumes as the hearings indicate.

Let's Look at Freight Rates

In considering minimum wage rates in this bill, there is a school of thought that would make one minimum rate applicable to all industry, or to one industry, or to all industry serving a certain market. There is no serious intent of wage differentials. This discussion has many angles to it but only one will be used in this article—freight rates.

Mr. McLaurine

It seems that there is no national freight-rate structure. There is a composite of regional structures and those regional structures are not made on the same level, nor according to the same schemes, so that they do not fit together at the regional borders very well, and a difficulty frequently arises when freight undertakes to move from one region to another.

J. Hayden Alldredge, of the Tennessee Valley Authority, in appearing before the Committee on Education and Labor of U. S. Senate, and the Committee on Labor of the House, testifying in reference to freight rate influence on the wages-and-hours bill on commodities manufactured in southern territory, stated that if $1.00 is taken as the basis for freight for the eastern official territory, that the basis for the South would be $1.39.

In quoting these figures, it must be understood that there are various classes and kinds of commodities and they may be shipped in various ways, thereby having a multiplicity of rates in each area but the rate level of eastern official territory is $1.00 per hundred pounds as compared with $1.39 per hundred pounds in southern territory. This comparison is based on some commodities and over corresponding distances to the same market.

In thinking of the southern area, working under a wage and hour bill that could have no differentials, or if it did, administered by a board that fails to consider all of the factors in rate making, the awful plight in which southern industry would be placed is easily conceived.

The following is taken from Mr. Alldredge's testimony:

"Of course, we are interested in trying to develop a region, and personally, I do not know how we can do it very

well unless we can utilize the resources of the region by converting them into higher forms of goods in the regions where they occur, and then marketing them.

"Now, the difficulty when you endeavor to do that is to deliver those goods to the area where the population is. According to the last census of the population of the United States, 51 per cent resides in eastern or official territory, and, of course, that creates an economic pull on the goods manufactured or processed in other territories or regions.

"It creates an economic pull on the goods manufactured or processed in the other regions, because the goods are looking for a market, and that market is generally where the people reside, and 51 per cent of the people reside in official territory.

"It just happens also that according to the last census of manufactures a little over 71 per cent from the standpoint of value of products of the manufacturing of the United States is done in eastern or official territory, and when the goods are manufactured or processed in these outlying regions and start for a market where the population is, those goods generally run into competition with goods that are manufactured in that region.

"These regions, not entirely, but generally speaking, are served by separate groups of railroads, and it is difficult to get them together on any common level of rates which will permit that free flow of interregional or interterritorial goods. If the railroads in one region want to get their goods out, and generally they do, they find opposition from the railroads in the region of destination.

"Now, I can read you an official declaration by the carriers operating in eastern or official territory, which will give you the setting of this problem.

"In the last year or two the Interstate Commerce Commission initiated a proceeding entitled, 'Ex-Parte 116', in which it called for suggestions as to a remedy for this problem. Now it is a troublesome matter to correct, there is no doubt about that, and the carriers operating in eastern or official territory filed a brief in that proceeding in which they set forth their position. I will quote that, if the committee please:

"Official territory lines have perhaps the most vital interest in interterritorial competitive adjustments of any single group of carriers in the country, for the reason that the populous official territory provides the market for a large part of the tariff produced elsewhere last year in the United States.

"That territory is hemmed in on the South, the Southwest, and the West by territories and carriers serving them, all seeking to market their products within the territory served by official lines.

"In many instances, such commodities sought to be marketed within official territory come into direct competition with the commodities produced in that territory. Official lines therefore are in duty bound to protect the geographical or other natural advantages possessed by shippers or producers on their lines, and as a matter of justice and equity they may not be required to join in such low bases of low interterritorial rates as to nullify or neutralize these natural advantages."

Thus the South now has a tariff barrier made possible by the freight-rate structure.

In emphasizing this influence of freight rates, many comparative rates are available, but the basic comparisons are sufficient to illustrate.

In the foregoing discussion, which has not been detailed, sufficient evidence has been produced to show the lack of wisdom contained in the bill, the dangers incurred by its enactment and the futility of its just and wise administration. The involvements are too great. The ideals are splendid and so far reaching that they do not lend themselves to concrete directions.

An awakening and awakened conscience of public opinion will find the answer. Labor and capital in their conflicts and compromises will finally approach the ideal which this law will possibly destroy.

Without trying to discuss, but for the record's sake, and for mental stimulation, the enactment of this bill will have marked influence on the farm problems and will aggravate them rather than assist in solving them. Most of the thinking farmers are opposed to its enactment.

Nine Southeastern Governors Advertise Section's Advantages

Of direct interest to the southern textile industry is the nation-wide advertising program just launched by the governors of nine southeastern states, to encourage industrial development of this section, by calling attention to the industrial potentialities of the region and pledging the co-operation of their states in plans for factory expansion. The states whose governors are participating are: North Carolina, South Carolina, Georgia, Florida, Tennessee, Kentucky, Alabama, Mississippi, and Louisiana.

The program is being launched as a voluntary undertaking with full-page advertisements in leading magazines in the general executive and financial fields, augmented by leading metropolitan daily papers, and other media. The declaration of policy of the conference, announced in all of these advertisements, sets forth the following objectives: 1, Proper freight-rate differentials as affect the Southeast; 2, equitable taxation policies; 3, friendly labor attitude between employer and employee; and, 5, co-operation with federal government on proper major policies affecting industrial development. "It will be our aim, by working together on these objectives, to maintain conditions favorable to sound industrial development so that the southeast may reap the full benefits of the ever-increasing trend toward industrial decentralization," the governors declare in their statement of policy for their campaign.

Lawrence Wood Robert, Jr., of Atlanta, president of Robert & Co., Inc. Atlanta, and formerly assistant secretary of the treasury, is industrial consultant to the southeastern governors' conference. He announces that upwards of $100,000 has been raised for the first year's operations; and that it is contemplated that provision will be made for an annual advertising budget of approximately $250,000 hereafter.

Mr. Robert

The advertising lists the following outstanding advantages which the southeastern states offer to manufacturers.

Unlimited supply of raw materials; ample power at low rates; excellent transportation facilities to growing markets; native-born labor—efficient and reasonable; unexcelled year 'round moderate climate which makes possible lower living costs for better standards of living; lower production costs; lower construction costs; and lower capital investment.

Authoritative survey point to the southeastern states as the scene of the next great industrial expansion of the nation, Mr. Robert points out, and this well-integrated movement is to point out the section's advantages. "The governors of these nine states have embarked upon a major co-operative program to let the facts be known to the nation, and to formulate their plans toward aiding and protecting the industrial development of our southeast," said Mr. Robert. "Industry is being invited to this section with assurance that conditions will enable it to flourish and that the employees will be happy and contented." The undertaking," he said, "means more employment, larger payrolls, and greater buying power, benefiting every man, woman and child—townspeople and farmers alike—throughout the entire section. The natural result will be a higher standard of living, and a greater insurance against unemployment for our natural and ever-increasing population."

Annual Meeting of the COTTON-TEXTILE INSTITUTE

FOUR outstanding addresses on topics of industry-wide interest combined with a strikingly impressive fashion show emphasizing "Cottons on the Fashion Horizon" for men and women, constituted the formal program of the 11th annual meeting of The Cotton-Textile Institute, Inc., at the Hotel Biltmore, New York City, on Wednesday, October 27. As always, the meeting provided a common meeting ground for representatives of various divisions of the industry, from all sections of the country, and while the attendance was not as large as it should have been, it was representative, and those attending reaped the benefit of the worthwhile speeches as well as the profit of personal contact and informal discussion with business associates and competitors.

Claudius T. Murchison, president of the Institute, opened the meeting in the absence of Board Chairman G. H. Dorr. Dr. Murchison's report to the organization, as its active head, was the first feature of the session. Discussing current and impending problems of the industry in a clear and forceful way, and reviewing the activities and achievements of the Institute during the past year, Dr. Murchison covered both, economic, legislative and other phases of the industry both domestically and internationally.

Position on Wages-and-Hours Law

He expressed definitely the industry's opposition to such legislative proposals as the original Black-Connery wages-and-hours bill, and to the re-imposition of a processing tax on cotton to finance a crop control program. Noting reports that the original wages-and-hours bill is being re-written for submission to the impending special session of Congress, Dr. Murchison pointed out that, "at the present time, we have no knowledge of what the changes will be," but "as an industry we are in a position to say two things definitely: First, we are opposed to the Black-Connery Bill as enacted by the Senate and as revised by the House Labor Committee"; and, "second, as an industry, we are absolutely free to take whatever position with respect to future legislative proposals as may seem wise after the content and purpose of such proposals have become known. We have taken no position from which we would wish to retreat. We have made no commitment from which we would wish to escape. We have made no plea for and have given no support to any such legislation as has recently been contemplated by the Administration. In our opposition to such legislation we have pled for the observance of certain fundamental decencies from the standpoint of sound social and economic principles as alternatives for the ill-considered provisions with which we were threatened."

The Institute head re-affirmed the industry's intention not to oppose constructive farm legislation, but declared it will resist any effort to restore the processing tax as a means of financing an agricultural program, declaring that such a method "places cotton at a competitive disadvantage relative to its many substitutes and so reduces the actual consumption of cotton," a hollow victory for the farmer himself.

Blackstone Photo

Mr. Halstead Dr. Murchison

International affairs affecting American textiles were next discussed. The two-year quota arrangement limiting shipments of Japanese cotton piece goods to this country, he said, has been scrupulously observed; "particularly comforting to the American industry and somewhat stimulating to the American cloth market is the fact that imports of Japanese piece goods next year, under the pact, will be at least one-third less than the volume of entries this year," said Dr. Murchison. He expressed the hope that considering the character and significance of this agreement, and the example it affords, "that the cotton-textile industry will continue to pursue the method which it so happily inaugurated and refuse to dishonor itself by participating in any organized boycott activities against a friendly country so long as decent alternative methods are available."

The speaker told of his appearance three days before at a Washington hearing to protest the proposed lowering of customs duties on Czech cotton-textiles—mainly towels, table damasks, sheets and pillow cases. "It is difficult for me to believe that the trade agreement committee will grant tariff concessions to Czechoslovakia on these articles unless such concessions are accompanied by quota limitations," he said, due to principles of the state department itself in the trade agreements program; that tariff concessions should be granted only with respect to those goods of which the other nation is the main or most prominent supplier—and the undesirability of tariff reductions on those articles the domestic manufacture of which is wholly adequate to the home market and available at competitive prices reflecting fairly the essential cost conditions of manufacture.

Dr. Murchison declared that a trade agreement with England, the world's greatest exporter of cotton goods, will soon be in process of negotiation, so that with this, the expiration of the Japanese agreement next year, the Philippine problem, etc., "the gravity of the international aspects of our industry's welfare shows no promise of lessening in the near future.

Cent-a-Bale Program

Discussing the cent-a-bale promotion program, Dr. Murchison described this as an example of the true mutuality of interest between cotton farmer and cotton mill; over 300 mills and 150 shippers, handling about 4 million bales, are participating, and it is hoped to embrace all groups interested in cotton. He emphasized as an example of the Institute's New Uses work the general acceptance of cotton fabric as a highway construction material and in the use of cotton-covering for houses; and cited the progress made toward the adoption of cotton fabric, rather than jute, as the standard covering for cotton bales. The Department of Agriculture is sponsoring extensive experiments with use of cotton bale coverings, having purchased and allotted sufficient fabric to cover nearly 17,000 bales of the current crop.

Robert H. Montgomery, of Lybrand, Ross Bros. & Montgomery, was the first guest speaker. He spoke on tax reform, describing the present federal tax laws as a

mess that will be with us for some time to come, regardless of what patching up is done. Under such circumstances, "to manage a business requires careful budget preparation and forecasting of the year's operating results well before the end of the year." Colonel Montgomery strongly recommended the adoption by any business enterprise of its Natural Business Year—ending at the time when the business activities of the enterprise are at their lowest point—as its fiscal year, and cited the advantages, from the standpoint of taxes, that are available under this cycle. He also explained that another thing that can be done to facilitate operations under the maze of complicated and unfair federal legislation is to liquidate subsidiaries", mitigating or avoiding capital stock and excess-profits tax duplication and minimizing the income tax on intercompany dividends, and simplifying the estimating of earnings and dividend payments for the undistributed profits tax."

The remainder of Colonel Montgomery's paper was devoted to a penetrating analysis of the inconsistencies and inequalities of the present financial program in Washington, concluding with the statement that "votes" are the only language understood in Washington, and that "if you want relief from unbalanced budgets, extravagant and huge and unnecessary expenditures, staggering taxes and other detriments to sound business, you will have to win votes or you will lose out—as usual."

The first feature of the Institute luncheon was an extensive and impressive cotton fashion show presented by the Institute's New Uses Section, under the direction of Miss Catherine E. Cleveland, its consumer consultant. This featured 1938 cotton fashions for men and women, in sports and formal wear.

Dr. Murchison presented to the luncheon audience two guests—George A. Sloan, former president of the Institute, and A. M. Fox, a newly appointed member of the U. S. Tariff Commission, formerly its director of research.

C. T. Revere, of Munds, Winslow & Potter, New York City, delivered as the final luncheon feature an extremely interesting and effective address on "New Uses for Cotton", a subject in which he, a world authority on cotton, has interested himself. Mr. Revere, speaking with graceful charm and interest, first paid high tribute to the thoroughness and effectiveness of the booklet by Charles K. Everett, of the Institute's New Uses Section, just issued under the title "Cotton Consumption in the United States". He called this "astoundingly graphic picture of the extent of King Cotton's onward march" in his opinion "the most superb job of its kind that ever has been turned out in the history of the industry."

Mr. Revere, a strong and active advocate for the development of wider uses for cotton products, revealed that his interest started over 30 years ago, when investigations disclosed to him the many and varied uses of cotton throughout industry as well as in domestic products, and told of an incident in which a magazine story he had written delineating these developments had upheld prices on the Liverpool exchange. After reviewing the many uses that cotton was put to 40 years ago he challenged the industry today with the opportunities presented now for further exploitation. In 40 years, he brought out, the United States has developed 40 great, new nationwide industries, each with opportunities for cotton use. He then dealt with "two hobbies that interest me greatly when it comes to broadening the use of cotton textile fabrics"—first, the use of cotton membrane fabric in bituminous road surfaces on 2,000,000 miles of secondary roads that could ultimately call for 12,000,000 to 16,000,000 bales of cotton, with the results of improved highways at lower maintenance expense. The second specific application which Mr. Revere feels could be exploited to great advantage is the cotton house, "the low-cost dwelling sheathed in cotton fabric which, if properly laid and kept painted for the first two or three years, will be found far superior to almost any other outside coating for low cost building."

The speaker at the final session in the afternoon was J. M. Mehl, assistant chief of the Commodity Exchange Administration, who told of the purposes and operation of his organization in the regulation of commodity exchanges and future trading, which receives daily and weekly reports from those dealing in any one future equal to or in excess of 5,000 bales.

Announcement of the re-election of Dr. Claudius T. Murchison as president of the Institute was announced at the meeting, as well as the re-election of G. H. Dorr as chairman of the board, and Paul B. Halstead, as secretary-treasurer. John H. Cheatham, Georgia-Kincaid Mills, Griffin, Ga., and Charles F. Broughton, of Wamsutta Mills, New Bedford, Mass., were elected as vice-presidents of the organization, succeeding R. E. Henry of Greenville, S. C., and Frank I. Neild, of New Bedford, respectively. Twenty-four mill men were named to terms of three years on the board of directors.

Carolina Yarn Association Golf and Skeet Tournament

The Carolina Yarn Association held its eighth annual golf tournament and skeet shoot at The Carolina, in Pinehurst, N. C., October 29 and 30. Approximately 125 golfers entered the tournament and many extended the activities into the skeet shoot as well. Friday morning consisted mostly of registrations and during the afternoon the games were under way. Friday evening was devoted to less strenuous forms of entertainment.

Saturday morning the games were again begun, stopping in time for lunch and a trip to Chapel Hill, N. C., where the University of North Carolina was defeated by Fordham University. The members and visitors returned to Pinehurst for Saturday evening, when the annual banquet was held, followed by presentation of prizes and special entertainment.

Ernest Keiswetter won the low net for 36 holes and the low gross for 36 holes went to Sam L. Diggle, chairman of the golf tournament.

Other scores were as follows: second low net, Fred Lemmon; second low gross, W. F. Spalding; first low gross, No. 2 course, R. V. Salembier; first low net No. 2 course, W. F. Bigelow; first low gross, No. 3 course, I. E. Pennington; first low net, No. 3 course, J. E. MacDougall; second low gross, No. 2 course, George Sharpe; second low net, No. 2 course, J. E. Baker; second low gross, No. 3 course, W. A. Underwood; third low net, No. 3 course, E. E. Conner; third low net for 36 holes, W. G. Avery.

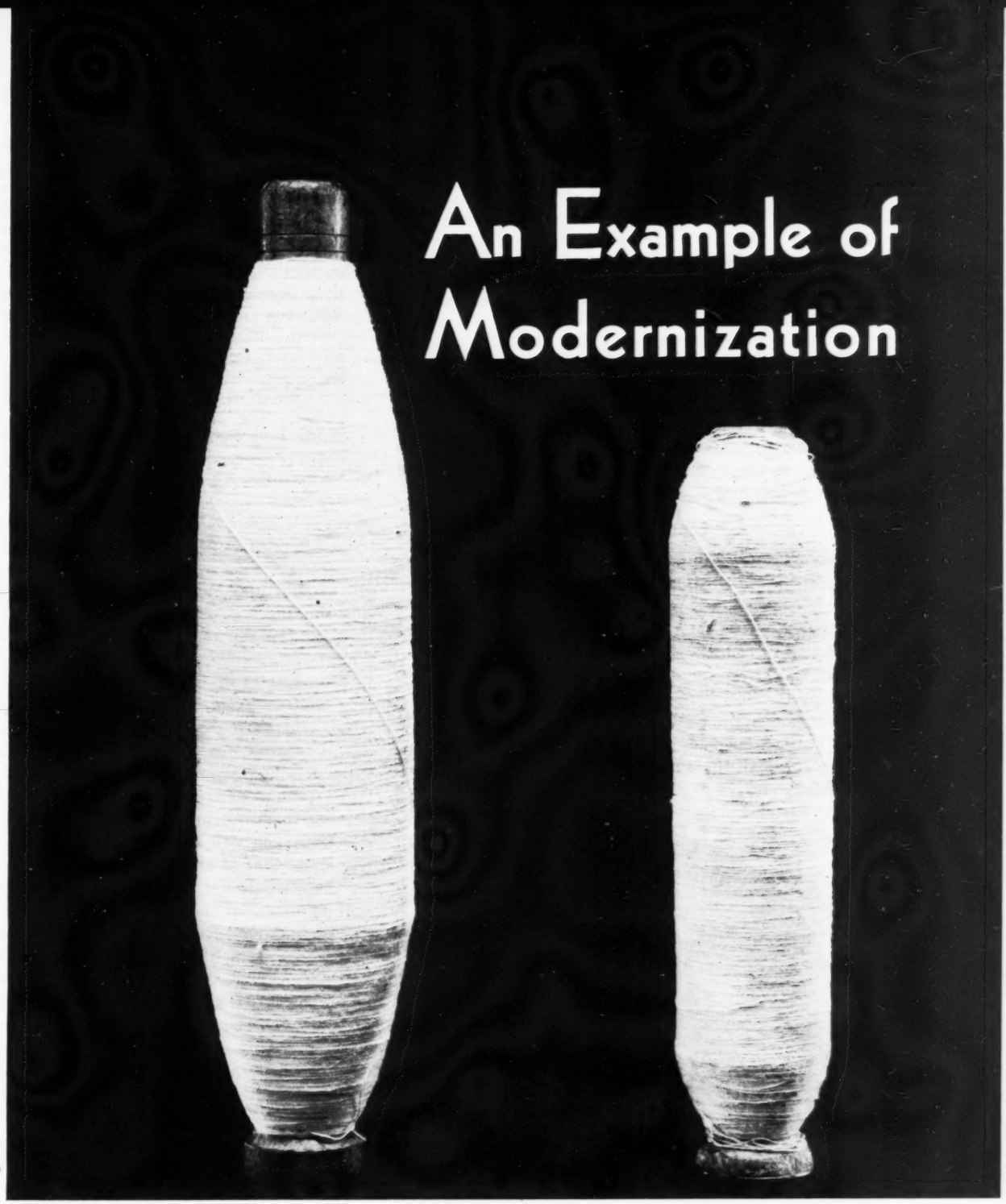
The low nets for 36 holes finished in order as follows: Dr. Hugo Hoffman, Ira Schey, F. B. Smith, T. H. Redding, R. V. Reece, E. E. Chapman, William Nebel, W. H. Hartman, W. L. Coggins, C. W. Causey, Jr., E. A. Werner, J. B. Frierson, Jr., J. F. McCrary, N. Ayers, B. R. Hunter, Norman Griffith, F. M. Duncan, T. C. Welling, H. C. Patterson, R. H. Moore, R. W. Weaver, J. O. Foil, Brown Mahon, Gordon Hope, A. L. Lewis, George M. Stevens, Penn Wilson, Howard Cannon, A. F. Zens, and Paul Zens.

The highest score for 36 holes was made by H. M. Horchler; highest score for No. 2 course, H. W. Anderson; and highest score for No. 3 course, J. G. Dolson.

The awards in the skeet shoot were: Class A, W. B. Thomas, Thomas Mill, High Point, N. C.; runner-up, J. H. Mason, Industrial Rayon Corporation.

Class B, H. R. Turner. In Class C W. E. Merritt and H. L. Merritt, Renfrew Hosiery Mills, Mt. Everett, N. C., and L. J. Weil, Kahn & Feldman were all tied. The prize was matched for and W. E. Merritt won. Class D, John Shoffner, Standard Hosiery Mills, Burlington, N. C. Class E, J. H. Redding. Class F, Richard P. Smith, Cotton.

An Example of Modernization



THE accompanying photograph is a striking illustration of what is possible in the way of increased package size in the mill. It is an unretouched picture of the spinning bobbin being made at a southern mill when it was taken over some time ago by a progressive mill management, and of the bobbin made now at this same plant after the installation of new long draft, large-package spinning, as well as new preparatory equipment.

But increased package size, as beneficial as it may be, does not represent the whole benefit of this modernization. The characteristics of the frames, Before and After the change, shown in the table herewith, will indicate the remarkable improvements made.

	Before	After
Number of Yarn	22.00s	21.67s
Staple of Cotton	15/16"	1"
Size of Ring	1⅝"	2"
Front Roll Speed	116 r.p.m.	138 r.p.m.
Avg. Break of Yarn	76 lbs.	91 lbs.
Traverse	5½"	7¾"
Yarn on Bobbin	1.5 oz.	4.6 oz.
Length of Doff	2 hrs. 50 min.	7 hrs. 20 min.

These figures tell the story. It is interesting to note that aside from the natural improvement in modern equipment and the use of better cotton, which accounted largely for the increased breaking strength and higher speed, the increase of ⅜-inch in the ring size, and 2¼ inches longer traverse, increased the amount of yarn put on the bobbin by 206 per cent, and increased the length of doff by practically 159 per cent (158.8).

The advantages are self-evident.

Methods of Fixing Looms

(Article 4)

By B. H. Hawkins

THIS is the fourth installment of a series on practical loom fixing methods. The first appeared on page 43 of the July issue, the second on page 72 of the August issue, and the third on page 78 of the September issue; thus far the picking motion, parallel motion, the setting of the harness, the beating-up motion, cover on the cloth, the protector motion, boxing the shuttle, button-hole selvage, and numerous fine points on fixing looms have been discussed. This article opens with a timely anecdote on a loom fixing system, and covers replacing shuttles, inspection of replaced shuttles, the nettlesome job of making the lizard crawl, and other important points. The author offers his statements as the opinions of many men, supplemented by what he believes to be the most suitable method of fixing looms. Copies of the foregoing instalments are available . . . . . .

SOME of you mill men indulge in bird hunting, I know, so regardless of the connection of this yarn to the weave room, you may get a laugh out of it if nothing else.

Looms and Birds

Two good friends were arguing over the respective merits of their bird dogs, each backing up his contentions with recitals of actual happenings during the bird season just past. The recital of this occurrence is the one on which the argument ended. The men were out hunting one day and on topping a small rise they saw the dog frozen on a point in the center of a burned spot, approximately 5 yards square. They cautiously approached the dog, admonishing him to "hold steady," etc., all the while. The dog continued to hold the point, and in the meantime the hunters walked all around him but couldn't locate the birds. Thinking the dog was on a false point, the men walked back toward the top of the rise and called to the dog to "hunt on", at which moment a single bird came winging its way from the direction of the dog. The hunters shot it down, and while glancing around to see from whence it came, another bird sailed past. They stood in that spot and killed 14 birds in succession. The dog had scented the covey, trailed them into a gopher hole, had put his foot over the hole, and was letting them out one at the time.

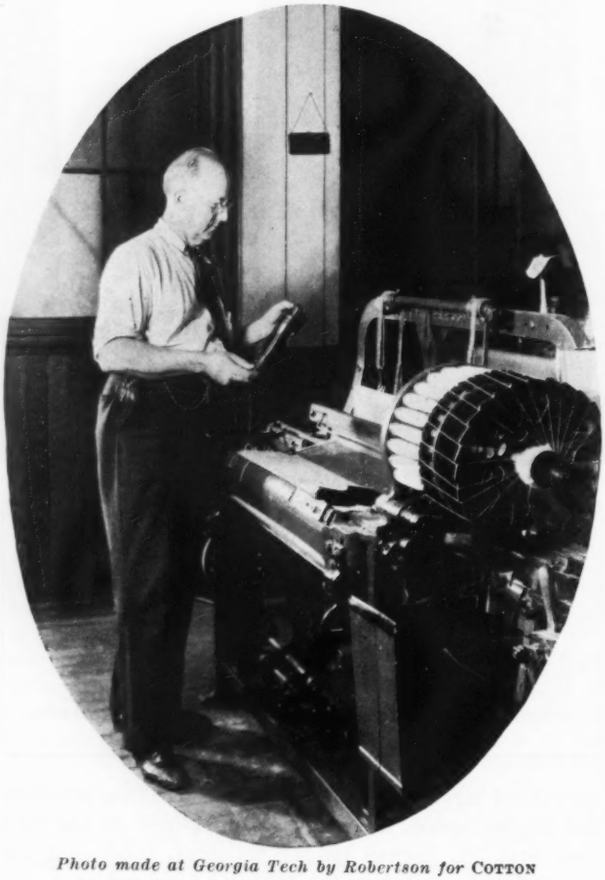


Photo made at Georgia Tech by Robertson for COTTON

Inspecting new shuttle. Note on empty quill on arch of loom gives further instructions to fixer . .

Now, you will have to admit, that dog was smart. He knew that if all the birds got up at one time some of them would get away as no two men could possibly kill 14 birds on the rise.

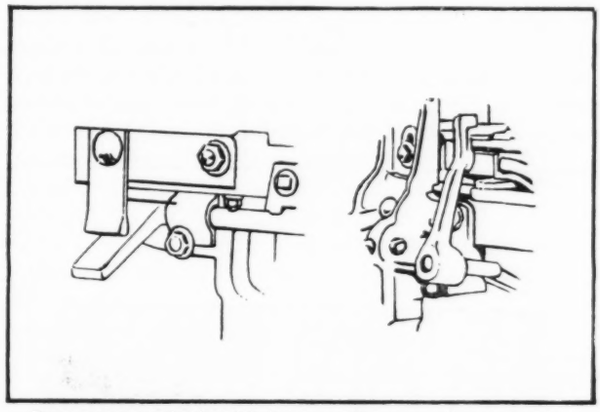
In that case there were two men and 14 birds; in the weave room there is only one loom fixer and usually 60 or more looms. But if the loom fixer would apply the same system as the dog used, he would find in time, that by tackling his troubles or problems one at a time, in a systematic manner, none of the things that need attention would escape him. Also, he would accomplish his work in a shorter length of time and with less effort. If I may allude to our tall tale just once more, it would have taken that dog a good half day to round up 14 birds as singles and he would have had to go several miles to do so.

System in the Weave Room

So it is with the loom fixer. If he would map out his work for a systematic check on things that are giving him trouble, and then eliminate those troubles one at a time, the weave room would hum with production. For instance, let us consider replacing a broken (busted) or worn out shuttle. I think it is a general practice now that overseers require the second hand or head loom fixer to inspect and pass on each shuttle and the general condition of the loom when a new shuttle is put in a loom. In one mill the head loom fixer inspects the loom on the following points:

1. That the shuttle was and is boxed correctly; 2. The condition of the shuttle, whether or not it is cut anywhere; 3. The protecting rod and bearings

to see if they are worn and have any play or sidelash; 4. To see that the protecting rod fingers are set up correctly against the binders and that the daggers clear the frog the proper amount on both sides; 5. That the frog rubber is in good condition and that the dagger stop is correctly set; 6. That the shuttle feeler is set correctly to protect; 7. That the loom is changing filling correctly and the change parts are not badly worn; 8. That the picker is parallel and in good shape; 9. That the binder and box front leather are in good condition; 10. That the rocker shaft and bearings are not worn; 11. That the pitman arms are in good shape and eccentric pins are tight; 12. That the loom is picking correctly and that the picks on neither the camshaft nor crankshaft are worn, insuring no lost motion in the meshing of teeth on the two gears, and, lastly, the stroke of the picker stick and the spring on picker sticks are checked.



Protector rod should have only enough spring to insure the protecting rod finger being against binder at all times . . . . . .

Actually it takes much less time to check these points than it does to write them down. To the best of my knowledge, this is a thorough and general checkup on any loom. These are the most important parts of the loom and the ones that give the greatest amount of trouble. However, these points should be checked continually and not just when a shuttle is being replaced. If a fixer keeps up his job as he should, then replacing a shuttle will be only a matter of boxing the shuttle, in most cases. The fact is evident that some shuttles last as long as 3 years and no loom can run that long without checkups on it.

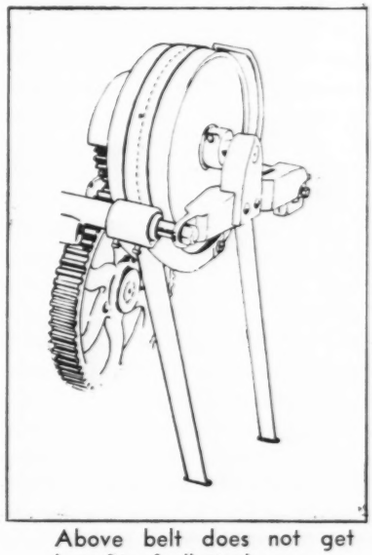
Various and Sundry Points

Some of the points here have already been discussed in detail so they will be skipped in order to spend a little time on the others. To begin with, we shall take up the amount of spring in the protector rod. I know you have seen looms on which the protector rod spring was so tight that the binder was serving part of the purpose of the check strap. That is, serving as a check for the shuttle. The protector rod should have only enough spring to insure the protecting rod finger's being against the binder at all times. You notice I say "at all times". With the high speed at which the looms are running today, the shuttle forces the binder and finger out so quickly that the finger will have a tendency to move away from the binder on the outward stroke. So, actually, the protector rod has more spring than is absolutely necessary, to overcome this tendency and to keep the finger in contact with the binder.

Occasionally you will find a loom on which the brake is not adjusted correctly, it being too loose. In this case, when the dagger rises up, unless the belt has been shifted all the way on the loose or idle pulley, the loom might trap the shuttle in the shed and cause a breakout. That is another reason why the spring on the protector rod is actually more than would be required otherwise.

Belts and Belt Buckles

I spoke of the belt being shifted to the loose pulley in the foregoing paragraph. Allow me to digress



Above belt does not get benefit of allotted power .

from the subject of inspection just a moment. I would like to touch on the very large item of belts. The next time you walk through your weave room, notice the position of your belts. Stop a few looms and see how freely the shifters work and notice the belt connections. The loom that is running with about one-half the surface of the belt on the tight pulley is not getting all the benefit of its allotted power. Not only that, but think of the damage being done to the belt. All the strain of pulling that loom is on half of the belt. This, naturally, causes it to wear quicker. The shifter arm rod, or bushing, if worn badly, will have to be replaced before the belt will shift and have the correct position on both the tight and loose pulley. If your belt is connected with a buckle, be sure the buckle has not been hammered out flat. It is supposed to be shaped in the form of an arc. When hammer flat the belt tends to break at these connections. These are good points to check on during your inspection trips through the weave room.

COTTON has carried a number of informative articles lately dealing mainly upon which side, flesh or grain, the belt should be run. I refer the reader to these practical discussions appearing in the "How OTHER MEN MANAGE" department.

Back to the shuttles, be sure that the daggers are not dragging on the frogs. As a loom fixer told me,

set the dagger to the loose frog the thickness of a dime, and, to the tight frog the thickness of a nickel, with the shuttle out of the box on both settings. About 1/16 and ⅛-inch respectively is about right. When the shuttle is in the box this will cause the daggers to be lifted about ¼-inch. This will tend to hold the binder fingers against the binders as the shuttle enters the box, and prevent smashes should the lay rebound while the brakes are loose.

There is no need to say anything other than that the frog rubbers have to be in good shape or else smashes are the results. This is checked by placing the shuttle in the shed and moving the lay forward until it is stopped by the dagger striking the frog. By doing this the protector motion is checked in a few seconds.

If the rocker shaft or bearings are worn badly, they will allow the dagger to drag on the frogs. When the loom slams the lay will buck or rise over the frog and cause a smash. The only thing that can be done is to slip and turn the shaft if it is not worn too much, or to replace the worn shaft and bearings with new ones. When the shaft has been replaced, or turned and slipped, the protector motion should be re-set, for more than likely the dagger will be too high.

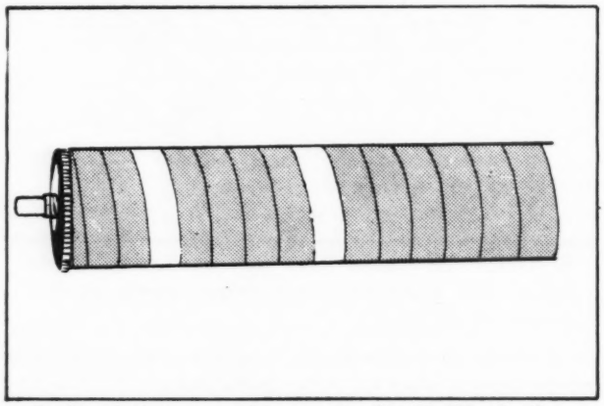
If the pitman arms or eccentric pins are worn very much they will cause the loom to run with a jerking movement instead of a smooth even motion. When replacing worn pitman arms be sure that the two new ones are of the same size. Some loom fixers not only put a piece of leather between the pitman arm cuff and the eccentric pin, but also between the pitman arm cuff and the crankshaft. When replacing worn pit-arm arms or eccentric pins be sure that the lay is lined up properly—that is, have the lay the same distance from the breast beam on both ends of the loom. One other point to check is to see that the battery is transferring the filling quill correctly after any of these parts have been replaced.

Hopper Stands

While we are on the subject of checking a new shuttle, I think it would be appropriate to say a few words concerning the replacing of hopper stands when one breaks off or has to be replaced for some other reason. I wonder how many weave rooms have a set of gauges, which were bought purposely, and were to be used to set up hopper stands, but are never taken out of the box they came in? Men that have been fixing looms a long time have an aversion to changing their method of setting up or fixing their looms. [An article on building up the loom prior to lining the hopper stand, and the use of gauges in setting the hopper stand will appear in an early issue.]

If what I read in the current papers and magazines can be accepted as being true, then an old dog can be taught new tricks. But I would like to wager any nominal sum that it would be easier to teach an old dog new tricks than it would be to teach an old fixer to change his method of fixing looms. He may agree that "there's something in what you say", but that's as far as it goes unless the mill has a rule that certain settings must be just so, and then check up to see that the settings are made as specified. I seem determined to wander away from the subject, so back to it.

I worked under a head loom fixer once that would no more consider using gauges when he put on a hopper stand than he would consider flying. He said he could set them a whole lot faster without the gauges, and that they would work as good as any set up with the gauges. I think that is one job in the mill where accuracy really counts for something. The results will show up plainly if a record is kept of the hopper stands that have been set up with the gauges and those set up without them. Check over your shuttles, see how many of them are being cut because the bobbin is being rolled in on the back or front wall of the shuttle. Walk around and see how many of the transfer forks have been bent in order to line them up properly with the bobbin in the battery. Check up on the bobbin breakouts on these looms, on the knocked-out filling, and the filling that is broken on the change. These things mean a loss in production, a higher supply bill, second quality goods, all without excuse. The gauges are made specifically for the purpose of lining up a hopper stand, when one is put on the loom, and should be used for this purpose.



Faulty cloth is caused by sand roll with fillet broken

One other point that I have failed to mention in connection with inspecting the loom when putting in a new shuttle, is the condition of take-up or sand roll. We know that the diameter of tin roll affects picks per inch put in the cloth, the larger the diameter the less the picks per inch. Suppose you have a sand-roll on your loom that has two or three widths of covering missing. If you will notice closely, the cloth that is being woven and taken over these places on the roll has the appearance of being thicker and does not have the same face or cover as the rest of the same piece, resulting in a striped appearance the length of the cloth. This may not show up on the loom or in the cloth room. It may only be caught when the cloth has been finished or dyed.

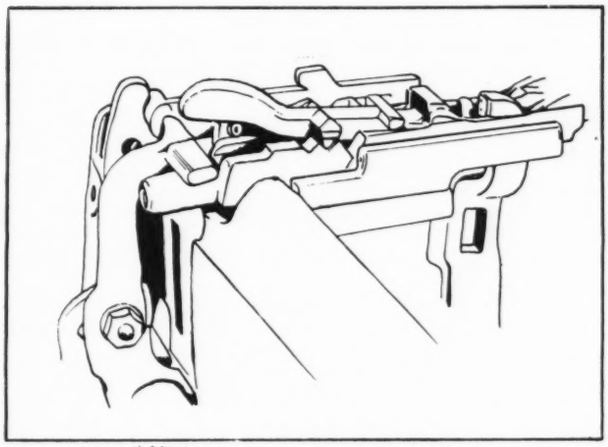
Covering the Sand Roll

There are several accepted ways of covering the sand roll. Some fixers claim that they can put the fillet on tight enough, while they are covering the roll, so that the cloth will be taken up properly, and that the tin covering put on in this way will last as long as tin put on by other methods. These fixers usually tack the covering at every place provided on

the roll. Other fixers only tack it about 4 places, across the entire width, when they cover it. I obtained the best results in long life and good running of sand roll, by covering it in the following manner: Cover the roll, tacking it at each end; then let the loom run several hours, which will take up the slack, and tack it again on the end where there is slack. It may be necessary to do this two or three times before the tin is absolutely tight on the roll. Then it can be tacked all the way across or as many times as desired. But one tack at each end is sufficient to hold it, if all the slack has been taken out. Tin that is tacked before all the slack has been taken out has a tendency to buckle and break at the places where it has been tacked. I have been told that the direction of the covering on the roll, left-hand or right-hand, could cause the cloth to telescope at the ends. I tried to check on this and account for it but was never able to obtain any noticeable results.

Telescoped Cloth

Telescoped cloth is an evil of the weave room and I might touch on it briefly. A few of the causes of cloth telescoping: One end of the sand roll lower than the other end, cloth roll bent or not level and not against the sand roll at both ends of the loom, fiber bushings in cloth stands worn unevenly, the cloth stand washers being out or not placed in the proper position in relation to the cloth stand and the front girt of the loom, or in relation to the cloth stand and breast beam as the case may be.



Making lizard crawl sometimes is nettlesome job

Looms that have feelers and are set up to change the filling from the feeler only should stop off from the fork on the first pick after the filling breaks and the loom indicates for a change. If the loom is changing from the fork, or both the feeler and the fork, the loom should stop off on the third pick after the filling change has failed. This is carried out by the action of the lizard. Whether or not the loom is changing from both the feeler and the fork depends on the quality of cloth desired. Where broken picks and misplaced picks are causes of second grade cloth, the loom should be set up to change from the feeler and to stop from the fork on the first pick. Thus when the filling breaks while the loom is running or when the filling breaks on the change, the loom will be stopped on the first pick, and broken picks and mispicks can be avoided. The manufacturers of feelers issue pamphlets for the settings of their respective feelers, and I do not think that I can add anything to the information already published on this subject.

On looms that do not have feelers and are changing filling from the fork, the lizard should be set to crawl so that the loom will stop off on the third pick after the filling breaks or runs out if the filling is not changed within three picks or three indications of the loom from the filling fork on the lever end. For this mechanism to work day in and day out, the parts such as the filling arm, bushing, snakehead, etc., cannot be worn very much, and they must be set up correctly.

Making the Lizard Crawl

With the loom on front center, the shuttle in the left-hand end, set the filling cam follower on the flat part of the cam, so that any movement of the camshaft will cause the snakehead to start moving back. The filling arm should fit tightly on the bushing with no lost motion and with no sidelash of the filling arm. These bushings should be filed, if necessary, to fit against the clothstand in such a way as to prevent sidelash. The filling arm should be set so that the snakehead works as nearly parallel to the floor as possible. The snakehead should not be set at an angle either up or down. There should be no lost motion between the pin in the filling arm holding the snakehead. The filling fork, in the filling fork slide, should project through the grate, until the pin, which holds the fork in the slide, is even or in line with the box back. This distance is about ¼-inch. Then set the snakehead so that the fork clears it about ⅛-inch.

To test and see if the fork is clearing the snakehead the correct distance, hold the fork up with one finger, and turn the loom from front to top center by hand. With these settings the loom should change filling correctly or stop the loom off, as the case may be, on the third pick. The lizard should move up one notch in the filling fork slide on the first pick after the filling is broken and the fork has engaged the snakehead. The lizard should move up the other notch and stop the loom off on the next two successive picks made by the loom from the shipper side. The loom is stopped by the projection on the lizard striking the knock-off finger, which is against the shipper handle, and causes the shipper handle to be moved out of the recess in the shipper stand.

When the loom is stopping from the fork on the first pick, the straddlebug must be turned over so that the back projection on the straddlebug fits tightly against the shipper knock-off finger. Thus when the fork engages the snakehead on its backward movement, this movement will cause the shipper handle to be moved out of its recess and the loom is stopped off on the first pick.

(This concludes the fourth installment of the series on loom fixing methods. The fifth part will appear in an early issue and will discuss both the let-off motion and the take-up motion. If there is some particular phase of loom fixing you would like for Mr. Hawkins to cover, he will be glad to do so upon request.—The Editors.)

National Association Meets in Providence

THE ANNUAL CONVENTION of the National Association of Cotton Manufacturers, held at the Providence-Biltmore Hotel, Providence, R. I., on October 6 and 7, drew a representative attendance of New England cotton manufacturers and others who profited by a well-arranged and balanced program of business, technical information, and entertainment.

In the election of officers, Russell T. Fisher was re-elected as president; and the two vice-presidents were also re-elected: C. F. Broughton, of Wamsutta Mills, and W. F. Staples, formerly of Ponemah Mills, and now treasurer of Cabot Mfg. Company.

All of the sessions of the convention were held on Wednesday, the 6th, the morning meeting, under Lincoln Baylies, chairman, being devoted largely to association business. Fred W. Steele, chairman of the association's legislative committee, made a forceful talk on legislative matters, emphasizing that wages-and-hours legislation is dominant in the administration's plans for the coming special session of Congress. Mr. Steele commented upon the recently launched program of the governors of nine southeastern states to attract industrial development in their section.

The National Association passed a resolution approving (1) a maximum work week for employees; (2) a minimum wage; (3) elimination of the employment of women and minors between midnight and 6 A. M.; (4) and the adoption of these principles uniformly throughout the industry without differentials of any kind according to geographical sections. As announced by President Fisher, the organization is "definitely opposed to regulation of the industry through a commission as proposed in the Ellenbogen Textile Bill and in the Black-Connery wage-and-hour bill. The powers that would have been given these commissions were so broad that practically all phases of the employment and work of employees would be subject to the regulations of the proposed board." In connection with proposed wage differentials, Mr. Steele had said that, "A uniform minimum wage scale on a nationwide basis, with the present regional differential wiped out, will work no hardship on the efficient manufacturer in any section of the country. It will force the chiseler into line and will increase the purchasing power of the low wage areas. It will eliminate the sub-standard wage scale as a competitive factor in the market place. It will add a measure of economic security to the present high wage worker and his community."

A topical discussion of "Specialized Textile Education and Its Place in Industry" was given at the afternoon session by Zenas R. Bliss, associate professor of mechanical engineering, Brown University, and Frederick M. Feiker, director of The Textile Foundation's educational activities. Mr. Feiker reviewed the work that has been done in improving textile education procedure to meet the industry's needs; Professor Brown brought out that there is a place in industry for both specialized and general training, properly co-ordinated, and urged the manufacturers to adopt the proper attitude on trained men for their industry.

An outstanding feature of the convention program was a series of papers dealing with technical subjects; first, two talks on new fibers, and, second, a symposium on "Machines and Processes", by executives of the three leading cotton spinning machinery firms.

At the morning session, J. L. Tucker, textile engineer, of Owens-Illinois Glass Co., spoke on "Glass as a Textile", describing the newest developments in connection with Fiberglas, its properties, applications, etc. A special article by Mr. Tucker, written for COTTON, appears on page 41 of this issue, and covers this subject in a thorough manner.

"The Future of Spun Rayon" was the topic of an interesting discussion by Alexis Sommaripa, manager of fabric development, rayon division, E. I. du Pont de Nemours & Co., which opened the afternoon meeting. Mr. Sommaripa interestingly reviewed recent fabric trends in textiles, particularly dress fabrics, pointing out that as new fibers have been developed, there has been no substantial displacement, but all have grown and thrived merrily together. The chief consideration is that each fiber find its proper field.

Russell T. Fisher, who was re-elected as president of the National Association of Cotton Manufacturers at the meeting in Providence . . . .

"When rayon displaced silk in dresses," he pointed out, "silk in turn displaced rayon in women's hosiery, in which it is far superior. The consumption of linen has probably been greater during the past few seasons than ever before. When modern industrial improvements are applied to textiles, the result is necessarily better products at lower prices—and the reward is a tremendous elasticity of markets."

He emphasized that spun rayon is an ideal mixer of diluent, and described a large number of fabrics in which it is combined with other fibers, adding its characteristics to those of the other constituents.

Confirming the mounting enthusiasm for spun rayon or rayon staple, he said American consumption in 1935 was 7 million pounds; in 1936, 25 million; with an estimated 1937 poundage of 47 million. He described the use of spun rayon in a large number of fabrics, and discussed various types of spun rayon yarns and fabrics.

For the benefit of practical men, Mr. Sommaripa reviewed briefly the principles to be observed in handling rayon staple on existing mill machinery.

The final group of papers dealt with textile machines and processes, and the speakers were W. McL. Fraser, assistant general manager, H. & B. American Machine Co., Pawtucket, R. I.; W. Frank Lowell, vice-president, Saco-Lowell Shops, Boston; and Robert J. McConnell, mill engineer, Whitin Machine Works, Whitinsville, Mass. These three representatives of the leading spinning machinery concerns dealt with progress that has been made in machinery design, manufacture, and application and operation. Each reviewed the developments within recent years by his own organization, and by the machinery industry as a whole—all co-ordinating to tell a story of progress in the direction of more efficient processes, better-built machinery and simplified methods.

The last session was the annual banquet on Wednesday evening, with President Fisher as toastmaster. Speakers included Mr. Fisher, W. M. McLaurine, secretary of the American Cotton Manufacturers Association; and Claudius T. Murchison, president, The Cotton-Textile Institute, Inc.

Thursday was devoted entirely to inspection of local textile machinery plants and educational institutions; a golf tournament, and a clambake.

Ed Holt Speaks at STA Divisional Meeting; Profitable Discussion at Sedgefield Inn

THE Southern Textile Association is hitting its stride this year under the direction of Ed Holt, president. Divisional discussions are the height of interest, showing the value of meetings planned well in advance. The mill men that are able, yet that do not avail themselves of the opportunity to attend these meetings are missing an important adjunct to the running of their jobs —the opinions of others . . . . . .

OVER a hundred operating executives heard Edwin M. Holt, president of the Southern Textile Association, and manager of the Erwin Cotton Mills Company, Plant No. 3, Cooleemee, N. C., deliver a timely talk on the subject of training men in the plant for better positions, the handling of operatives in a tactful manner, and respect for personalities in the successful operation of a textile mill, Saturday morning, October 16, at the Sedgefield Inn, six miles south of Greensboro, N. C., an ideal setting for the meeting of the Northern North Carolina-Virginia division of the Southern Textile Association.

Quoting Charles Schwab, Mr. Holt said that the importance of developing men cannot be over-emphasized. Too many workers have had to do routine jobs, unrelieved by variety or change of scene. We have got to work out a plan whereby men even in ordinary ranks may obtain some degree of achievement from routine tasks—the tasks of the executives being to make men happy, not through making life soft and easy, but through their work men can realize a larger life and take a greater zest in their workmanship.

The need today is for a greater *understanding* of the problems of and between capital and labor. Mr. Holt forcefully brought out that persons are just as necessary for production as are machines—the tendency long has been to forget that the human element is just as important in the running of a plant as are machines, cost, and the other factors entering into production of goods. The universal desire of man is to be appreciated, and in being appreciated, in return the man appreciates his executive and his company and consequently gives the best that is in him toward the running of his particular job. Mr. Holt in enlarging upon this point gave several *don'ts* for the man that must give orders to remember: "Don't give inconsiderate orders. Don't give curt reprimands. Every man must be checked upon, from the president of the company to the lowest paid helper, but there are many ways of reprimanding without creating ill feeling. In giving orders, don't fail to give the necessary information for the correct performance of the job. Don't make apologies for difficult tasks, but whenever possible, explain to a man the why and wherefore of doing a particular job by a certain method—the man is entitled to know some things about the running of his own job. And lastly, make the man on the job a partner in the operation of that job."

In closing, Mr. Holt gave a parable of a man working in a mass production plant, his particular job being to place one link in a chain, the chain to be used in the driving of powerful trucks for hauling produce. This man considered his position unimportant until one day he came upon a truck hauling perishable goods that had a broken chain, the link being the particular one that this man had joined in the chain in his factory. He saw the result of his defective work—and immediately realized that he did play a definite part in the progress of business. From then on he took a renewed interest in his work and in his life—he was an important cog in a great wheel.

L. J. Rushworth, superintendent, Riverside & Dan River Cotton Mills, Inc., presided at the meeting. He called upon J. O. Thomas, personnel director, Marshall Field & Company, manufacturing division, with headquarters at Spray, N. C., who delivered an interesting paper on "The Need for an Organized Personnel Department in Textile Plants." An abstract of this paper by Mr. Thomas appears on page 59 of this issue. A questionnaire pertaining to carding, spinning, and weaving had been prepared in advance, and the chairman called upon L. V. Andrews, superintendent, Martinsville (Va.) Cotton Mills, who led the carding and spinning discussion in a capable manner.

Edwin. M. Holt, president of the Southern Textile Association, who spoke at the Sedgefield meeting . .

Carding and Spinning

The first question on the list was, *What has been your experience with synthetic rubber top rolls for spinning frames?* This same question had been discussed by the Georgia men and other divisions of the Association, but still proved to be of interest to the mill men of this division. A man from Graham, N. C., reported that he has been running synthetic cots in some of his spinning frames and they proved satisfactory as long as the weather was warm, but since turning cold he has in turn turned cold against the roll coverings. He explained that the rolls are too hard in cold weather. A representative of a company making the synthetic rolls stated that the rolls in use at this plant were put in prior to certain developments that have been made in the synthetic cots, and now cold weather does not affect them.

W. J. Jennings, Minneola Manufacturing Company, Gibsonville, N. C., said, "I am using them and so far my experience with them has been that they are good; I don't know how they will work when it turns cold. I run a draft up to 17 on the synthetic rolls and they work very well. We have tried two different makes and both have given good service. We had one cot that was made too large for the roll and it became loose, but this is no reflection on the roll itself—merely in the size of it. It ran for about six months and then it slipped on the roll. I believe they are going to be satisfactory. We use the flat type of clearer,

Reported by John C. Fonville.

and though at first we were troubled with a few *eyebrows*, we do not have them now." Conversely, another member averred that he has run several tests on the synthetic rolls but has found none of them to be satisfactory because he is troubled with eyebrows and other rolls tested became slick; another roll had a bad odor, making it unpleasant to work in its vicinity.

At this point it was brought out that there are new methods now for buffing the rolls and members mentioned two of these but gave no particulars. J. L. Brannan, Durham (N. C.) Cotton Manufacturing Company, a visitor from the Eastern Carolina Division, was seeking information on these rolls, he said, and contended that he has trouble in starting up with the rolls on spinning frames after the week-end stop-off. He told of having the latest type of buffing equipment used on the rolls and of turning them down to the same diameter as the steel rolls. The synthetic rolls are not damaged by a hard end but still trouble is encountered in starting up on Monday morning. He has seen a roll (color white) run on an 8x4 intermediate with a draft of 26 and it gave excellent results.

Left, L. J. Rushworth, general chairman of this division. Right, W. J. Jennings, incoming general chairman . . .

The chairman admitted that it is generally conceded the rolls run much better in the card room than in spinning, but the particular question pertained to spinning. W. A. Hunt, superintendent, Pickett Cotton Mills, Inc., High Point, N. C., reported, "I have the synthetic rolls, the latest development, and I have not had any trouble. My ends down per 1,000 spindle hours are fewer and the rolls do not flute over the week-end. We have less eyebrows on this latest type of roll than on the others that we tried. I am running flat clearers and creeling double in the spinning." The representative of a synthetic roll company volunteered that the regular clearer is not adapted to the roll made by his company. A top clearer with less coefficient of friction operates much better. It is possible to use a clearer with a section of sheepskin, calfskin, or paper. When the paper is employed in the clearer, it is best to use a combination of paper and the regular cleaner because the paper, being smooth, will otherwise allow the waste to drop off into the work. [For further discussion on synthetic rolls, see Question No. 5 in the report of the Eastern Carolina Division of the Southern Textile Association on page 61 of this issue.]

Long Draft Roving

What results have you obtained with long draft roving frames with regard to evenness and breaking strength? How does long draft roving compare with the conventional draft roving? was the second question. John L. Fonville, superintendent, King Cotton Mills Corporation, Burlington, N. C., told of running a test on one frame of the 4-roll type of long draft having a device in it that folds the edges of the sliver into the center just before the final set of rolls draft it; the test was run on a blend of 80 per cent cotton and 20 per cent wool. The roving was run double in the Saco-Lowell spinning frame making 15s; also the test was run on 12s. A 64-grain sliver was made into 1.85-hank roving, and run double in the creel as previously stated, the 12s yarn broke about 33 pounds stronger than the conventional short draft which had been run through the drawing, slubber, and intermediate, the intermediate roving of 1.30-hank being run single in the spinning. This procedure was changed somewhat on the test run on 15s. The 15s were run single roving in the spinning. Long draft roving of 1.85-hank was used on a Saco-Lowell long draft spinning frame against 4.00-hank roving from the conventional short draft carding processes, run double in the creel, and the long draft roving process proved 17 pounds stronger than the conventional draft.

Lexie Davis, Proximity Manufacturing Company, Greensboro, N. C., has had experience on colored work with 24 long draft slubbers of the Casablancas type; he secures low end breakage in the spinning, and is satisfied with the work of the long draft roving frames. A visitor who is associated with a mill in Georgia reported that this plant has 35 of the latest type of long draft roving frames; 2.80-hank roving is made from 60-grain sliver and the breaking strength has been increased 5 per cent. Another member of the division reported a unique result from his long draft roving frames. In making 30s the yarn is not as even as on the conventional type of roving frames—there is much more variation in the yarn but the breaking strength has been increased 7 pounds tested by the skein break method. The chairman suggested that he apply the single-strand test and then notice his results.

Still further examples of experience were given. It was reported that on the H & B long draft that the yarn does not look quite as good but the breaking strength has been increased. This is making 15s yarn from 1.64-hank roving and running it double in the spinning frame. These frames are not equipped with the folding scroll device. The question was asked if anyone has tried to eliminate the intermediate roving frame and take the roving direct from the slubber to single creeling in the speeder and then double in the spinning room. Mr. Holt replied that he does not think anyone will need this type of manufacturing set-up. The inquirer reported as having seen this in one plant, but did not think it general throughout the mills, even though it is proving satisfactory in this particular plant.

Another question arose: *If you wanted some good slubber roving, the spindle speed on the slubber being 700 r.p.m., would you slow the spindle speed and remove twist, or leave the spindle speed at 700 r.p.m. and have a higher twist?* Mr. Brannan considered this a good point for argument, but preferred to remove some twist by slowing the spindle speed to 600 r.p.m. as this gives better running work in the spinning room. The chairman said that some good test work could be done on this subject because just about the same production could be secured even though the spindle speed were changed and less twist inserted.

Novel Arrangement

Mr. Netherland, Pickett Cotton Mills, Inc., High Point, N. C., was of the opinion that the machine itself has no brains so the executive must think for it. He prefers to run a low spindle speed and remove twist in order to secure a good roving. He continued that good drawing is the best insurance for getting good roving and one way to get good drawing is by doubling. Then much twist can be taken out of the roving. He told of having changed his machinery somewhat in order to secure what he considers the most even roving he has ever seen. Five rolls are placed in the breaker drawing instead of the usual four and the spoons are balanced to take two ends of sliver instead of one. Then 12 sliver cans are placed at the back of the frame instead of 6. The finisher drawing is arranged in the same manner, thus securing 144 dou-

blings in his drawing frames. This stock is run through the slubber in the usual manner except the spindle speed is much slower and the rollers are so speeded as to give the same production and to place less twist in the roving. He explained that he also changed the draft on the slubber so as to equalize more nearly the draft between the sets of rolls. The intermediates are skipped and the speeders are changed to four rolls instead of three. The cost of operating the intermediates is eliminated and the doubling is secured in the drawing—without cost. He finishes 3.00-hank roving from .42-hank slubber roving.

Changes in Card Room for Running Rayon Staple

The third question on the prepared list was, *What changes of settings are required in the card room when running cut-staple rayons?* Mr. Brannan has had 4 years' experience in running staple rayon and said that it has given him many a headache. He uses practically the same settings when running staple rayon as when using a good grade of cotton. The solid screen is not used under the feed plate and the fly is removed from under the card only when it is ground, every 15 days. Rayon is much harder on the card than cotton and it has to be ground more frequently. In setting the stripping plate it is best to set it just as close as possible, and the screen should also be set close. Mr. Brannan said that he cannot run rayon on metallic rolls and that it is best to run the rolls ¼-inch farther apart than the staple being processed. At one time he had complaints on the breaking strength of the yarn he discovered that the trouble was in the pickers. The finisher picker was shortened and the opener was placed close to it—having changed the pins in the lattice opener and placing them closer together so as to open the stock more. The evener motion was also changed and the belts widened on them to 1¾ inches. Stating that he had been troubled with split laps, he built a creel in front of the picker to contain 6 bobbins of intermediate one-hank roving and let this roving go around the lap. The roving was carded again in the usual manner, but the split laps were prevented.

A carding beater is used by Mr. Brannan because the blade beater injures the stock, and the cards are stripped every 2½ hours. The feed roll is set 3/16-inch to beater and the beater makes 600 r.p.m.; the grid bars are set just as close together as possible. When questioned as to the friction on the pickers making a lap that is too solid, he replied that much of the friction on the picker was removed and that the lap pins were turned down to taper ¼-inch so that they could be pulled easily. He has seen paper wrapped around the pins but does not consider this satisfactory. If the blend of cotton and rayon or rayon and some other fiber is of a higher percentage than the count being run, difficulty will be encountered. His doffer is run at 6 r.p.m. and the licker-in at 300 r.p.m. He also told of his method of returning the strips back into the card. The stripper comb is removed from the front of the card and placed on the back by adding a shaft from the stripper comb motion at the front reaching to the back of the card. This causes the stripper comb to function in this position just as it does on the front. (Of course a stand must be built for it to rest in). Then the strips feed back into the lap and licker-in. In running a 14-ounce lap by this method it is best to lighten the lap by 1½ ounces per yard as the strips going back into the card will compensate for the weight. The draft and the working parts of the card take care of the evenness at the front, explained Mr. Brannan.

What has been your experience with this year's crop of cotton, and in what proportions are you mixing it with the old cotton? was the last carding and spinning question on the prepared questionnaire. Mr. Brannan contended that this year's crop is much better than the last, the staple being especially good; he has even removed some twist. Mr. Holt explained that on goods other than napped ones, he believes it is best to put all of the new cotton in the plant at one time. However, on napped goods unless the new stock is blended with the old about 10 per cent at a time, bars will develop on the fabric. He also blends the cotton when the supply comes from several sections of the country. W. P. Ward, superintendent, Randolph Mills, Inc., Franklinville, N. C., said, "We are running old and new cotton together, mixed 4 bales of new to 20 bales of old. This is on 15/16-inch cotton and we get along nicely. I am very pleased with this year's crop. Another gentleman mixes the old and new cotton in the ratio of one to one and gets good results. Mr. Fonville runs the picker laps two pounds heavier on new cotton, keeping it separate from the old until it leaves the drawing frames.

Mr. Andrews

Weaving

J. R. Copland, superintendent, E. M. Holt Plaid Mills, Burlington, N. C., led the weaving discussion. *What advantages, if any, have been found in the installation of the energy drive for looms?* was the first question. It was reported that a sample installation is in one mill and the number of picks per minute have been increased 10, but the man answering the question was in doubt if the cost of the pulleys is justified. The final speed on the 36-inch E Model looms making serge and flannel is 174 picks per minute, using a belt drive. Culver Batson, division manager, Consolidated Textile Corporation, Lynchburg, Va., has an installation of 40-inch looms running 174 picks per minute with the energy drive, and he is running a test at the present against the individual motor drive. No results have been ascertained yet, except that it is thought the looms equipped with motors run smoother; the goods being run are 80x80. Mr. Batson is of the opinion that the energy drive has not reached a state of perfection, but is a step in the right direction. Some force is needed to act as a flywheel on a loom, but possibly the flywheel should be on the opposite end of the loom from the drive.

What is the best method of preventing wavy marks when weaving rayon or silk, and what has been your experience with automatic let-offs to prevent this trouble? was the next question. A. J. Hill, Pomona Manufacturing Company, Greensboro, N. C., reported that it has been his experience keeping uniform heat and humidity in the weave room alleviates these defects. However, when Celanese, acetate, viscose, and other types of rayon are being run in the same room, each requires a different humidity and it is difficult to regulate the room in a manner suitable to all. He suggested a temperature of not under 85 degrees F. for the weave room. Another member considered good loom fixing as the best method of eliminating wavy marks in rayon or silk; the pitman arms must be kept tight, the bearings must not be loose, and the loom must be in good condition generally. He has tried a number of let-offs to prevent wavy cloth and is at the present using a Manila rope that contains no oil. He also mentioned that it is important that the take-up motion be in A-1 condition. It was also brought out that a uniform tension should be kept on the rayon. The yarn is stretched from the cones to the fabric, and if in the manufacturing process it is stretched beyond a certain point, it will not weave satisfactorily. The copping operation is especially injurious in stretching the yarn if it is not done properly.

The third weaving question was, *What methods do you use in cleaning looms, both when the loom is running and when the warp runs out? How often do you clean the loom when it is running?* A representative of the Erwin Cotton Mills Company, Plant No. 3, Cooleemee, N. C., reported that the looms are cleaned by air once each day, front and back, and when the warp runs out they are again thoroughly cleaned with air. This is on napped goods and colored work, and no trouble is encountered with one color of yarn or lint falling into the other colors. The question was brought up concerning the use of brushes to clean looms. One member replied that he cleans with air when the warp is out of the loom and with brushes when the warp is in the loom. The brushes are made from an old picker stick and hard slasher waste. L. J. Rushworth, superintendent, Riverside & Dan River Cotton Mills, Inc., Danville, Va., said that in his plants air is used just as little as possible to clean the looms. In fact the only place it is used is on the drop wires and every effort is made to direct the air away from other parts of the loom. In blowing out the stop motion girt, the air is directed downward, and the loom is cleaned thoroughly when the warp is out. Filling grates are cleaned with a brush.

J. R. Copland, who led the discussion pertaining to weaving .

R. K. Craven had used air for some time but was having difficulty with oil being on just about every cut of cloth made. He discovered that to run the air compressor and pay the men running the air hoses cost much money, so he quit using the air and presented two of his men with brushes. They began to clean overhead first and then began on the looms—now he is satisfied with this method of cleaning and has eliminated the oil spots in the cloth.

Mr. Batson, on the subject of cleaning filling grates, told of having a number of his grates chromium plated recently, believing that if they were so made the lint could not cling to them. As yet they have not been in use long enough to tell whether this idea is practical or not. J. L. Wofford, Cooleemee, N. C., has the weavers clean their own filling grates about an hour or an hour and a half before the shift is terminated. He has insisted that the weavers leave the filling grates clean in preference to having all of the looms running when the next shift comes on.

Another member is on soft twisted filling and coarse numbers, and cleans the grates each day. Air is not used in cleaning the looms, but they are thoroughly wiped off when the warp is out. It was brought out that if cleaning is done often enough then air may be used successfully, but if the lint and trash is allowed to accumulate and then is blown off, much of it will fall into the cloth and damage it; conversely, should the air cleaning be regular, there will be little lint to fall into the cloth and that part which does will not be enough to cause trouble. Mr. Batson said that ever since he had to clean looms with a brush, when he was starting in the mill, he has been against them. He uses air and has little trouble from it either from the standpoint of lint or oil. In fact, he remembers that a man in his plant wanted a sample of oily cloth to try out a new solution on one day, and there had been no oily cloth made in the mill for so long that they were unable to find any. He considers the training of blow-off men just as important as the training of other operatives, and suggested that the overseer remain with the man handling the air hose long enough to teach him to use it properly. Mr. Fonville asked if anyone is running oilless loom bearings, but no one present was doing so, whereupon he commented on the loom bearings that are made of oil-impregnated wood, though he has never used them.

The last weaving question was, *What system of storing filling in the weave room, for immediate use by the battery hand or weaver, have you found to be most convenient and economical?* A system was described by a man who has to handle 35 different numbers in his weave room. Boxes have been so arranged that they may be attached to the looms, each box holding 138 bobbins. The boxes carry a card, attached at the spinning room, and this identifies the filling. Should all of the filling not be used of a certain number, it is returned to the spinning room so that an inventory may be kept of it. The system is used on plain looms, but it may be applied to box looms also. Mr. Brannan brought up the subject of filling sloughing-off in the loom, often caused by the filling drying out, but he said that much of this could be eliminated by securing the proper stroke on the spinning frame and by keeping the proper temperature and humidity in the spinning and weave rooms.

H. D. Mullins, superintendent, Virginia Mills, Inc., Swepsonville, N. C., asked how the members are preventing rusty reeds and heddles. He mentioned the articles* written by Ivar Moberg that appeared in the May and June, 1937, issues of COTTON, saying that they were especially helpful in discussing this question. An answer to this question told of cutting out the reeds from the pattern, if the pattern were not to be used again, and storing them, after brushing off, on a mezzanine floor in the slasher room where the air is dry. No rusty reeds or harness are encountered. The chairman said that he stores the reeds and harness in the slasher room and has trouble with rust, probably because his are not stored on a mezzanine floor where it is warm and dry.

The Proximity Manufacturing Company, Greensboro, N. C., purchases reeds in paper sacks, and when the reeds are to be stored the same sacks are used over them. Some of the men use oil on the reeds; others polish them well with a machine before storing. One man described the cleaning of the steel heddle harness with a small brush every time the warp runs out on a loom. Another plant cleans the harness and reeds with air, having a system of clearing the air lines of water, thus preventing rust on the harness and reeds. In answer to a question, a member stated that in cleaning rusty reeds with oil it is preferable to remove as much of the rust as possible before with pumice stone. It was brought out that the reed brushing machines are proving satisfactory in the cleaning of reeds, especially in the removal of oil from the wires.

This closed the technical discussion and the election of officers followed. W. J. Jennings, Minneola Manufacturing Company, Gibsonville, N. C., was elected as general chairman; L. V. Andrews, Martinsville (Va.) Cotton Mills Company, Inc., was elected vice-general chairman; and J. O. Thomas, personnel director, Marshall Field & Company, Spray, N. C., was re-elected secretary of this division. T. C. Pegram, Erwin Cotton Mills Company, Plant No. 3, Cooleemee, N. C.; G. H. Mahaffee, Riverside & Dan River Cotton Mills, Danville, Va., and W. A. Hunt, Pickett Cotton Mills, High Point, N. C., were elected to the executive committee. Following this, many of the members partook of one of the famous Sedgefield Inn luncheons.

*Copies of Mr. Moberg's articles are available.

Need for Organized Personnel Department in Textile Mills

By J. O. Thomas
Marshall Field & Company

(Delivered at the Northern North Carolina-Virginia meeting of the Southern Textile Association, held at Sedgefield Inn, near Greensboro, N. C., October VF.*)*

TODAY on every side one hears the thought expressed that this is an age of specialization. As business and industry continue to grow and to become more complex in operation the principle of the division of labor operates within the realm of management as duties are divided and sub-divided to meet the greater demands of finer and finer specialized effort. The wise leader of an industrial enterprise makes intelligent use of the various tools of specialized activity to effectively multiply his own efficiency and to increase his usefulness in the field of managerial endeavor.

One major function of management that in the past has been much neglected, but which is now gaining more favor and attention than ever before, is the activity of personnel administration, or what is more commonly termed the program of industrial relationships. Moreover, in industries where personnel departments have been established for a period of years these departments have not, in most cases, been accorded proper recognition by comparison with other major phases of management.

We are living today in a new social order. Industrial workers, along with management, are thinking new thoughts, demanding new things and looking to wise leadership in helping them to realize their dreams of happier relationships and better living.

How can the textile industry best meet this new situation? How can it help its human element to be happier and at the same time fit it to render more efficient service to the organization of which it is a part? How can it know what its people are thinking?

No matter how broadminded or sympathetic top management may be with reference to a program of personnel management, no matter how deeply interested it may be in the proper development of its human factor, it can never carry out successfully a program of industrial relationships without a great deal of help and guidance from some person or persons charged specifically with the duty of personnel administration. Top management has too many other important functions to which attention must be given—sales, finance, production and other major departments of the business organization. It will be noted that in handling these other essential activities, the executive relies upon men of special abilities to advise and counsel with him before making policies, plans and decisions. Today in our own industry broadminded and farsighted management is giving attention to the function of personnel administration and is making the work of the personnel director equal in importance to that of the director of finance, sales or production.

The textile industry has been rather slow to set up departments specializing in personnel administration. Here and there a few large and outstanding concerns have had personnel departments of various kinds. Some of these functions have developed into full-fledged departments, others are still only modified activities. During very recent years, however, one notes more and more interest in this important and essential phase of management.

A short definition of personnel work might be summed up in these few words: "Personnel administration is the art of selecting, hiring, training and placing employees, and developing them in such a way as to keep them efficient and happy."

From my 18 years of experience in many varied phases of work in the textile industry, I cannot see, frankly, how a firm of any size can get along successfully without some form of organized personnel work. Naturally, in the smaller concerns this function should be in much simpler form than in the larger groups, but I contend that even in the small company or plant the function of personnel administration should be given as much attention and consideration as other major phases of management.

Mr. Thomas

For the textile executive who is really interested in setting up an organized personnel department there may be several ways to proceed. Before starting at all, however, he should first be sure that he himself is sold on the idea and that he honestly believes a department of this kind is a necessary and essential function of his organization. He must be willing to accord this activity its proper place in his management set-up. He must honestly want to see this new department serve the best interests of both employer and employee. Behind the whole idea must be sincerity and a desire to make the department function fairly and squarely for all concerned.

One very important decision to be made before the department is set up should be that concerning the type of work the department will be expected to perform and the long range scope of its future program. It is suggested that the personnel activity be started in a small way, but built up over a period of time to a very definite plan. As far as it is possible to do so, the desired objectives of this long range program should be outlined and scheduled for future accomplishment.

Some of the major activities of a personnel department are as follows: Developing sources of labor supply and selecting the right type of workers for various jobs in the plant; hiring employees and training them in order that they may develop into efficient workers and good citizens; seeing that transfers and promotions are given as promptly as possible to employees who merit such changes. The first activities mentioned will imply the need for a central employment department. This is a function of personnel administration against which many superintendents and foremen have fought prior to its incorporation as a part of the personnel program, but which they praise as a real service to the production department once it becomes effective.

There are many employee services that the personnel department can promote. Among them are safety programs, group insurance and hospitalization plans, library service, athletic activities, clubs, canteen service and many other things that will contribute to the welfare and happiness of the people served.

A very important consideration in connection with establishing the personnel activity is the selec-

(Continued on page 104)

Eastern Carolina Men Meet in Durham Discuss Carding and Spinning

LET'S MAKE these discussion meetings bigger, better, and more helpful to everyone" was the resolution enthusiastically adopted at the fall meeting of the Eastern Carolina Division of the Southern Textile Association, held in the auditorium of the Erwin Cotton Mills Company on October 9 in Durham, N. C. Approximately 110 members of this division were in attendance and heard P. B. Parks, manager, Erwin Cotton Mills Company, Plants Nos. 1, 4, and 6, located in Durham, welcome the group to Durham in behalf of its 67,000 people and 88 manufacturing companies. Mr. Parks brought out the value derived from the discussion groups and said that they were needed long before they were established. He also explained that much more benefit is received from attending the meeting and taking a part in the round-table discussions than by merely sitting through them without expressing an opinion.

MORE men than ever before are now taking part in the divisional meetings, thus serving the double purpose of making the discussions more interesting and the meetings more valuable. The members get out of a meeting just what they put into it.

• •

Mr. Byers

Mr. Brannan

The meeting consisted of a single session, adjourning for lunch early enough so that all who cared to might attend the Duke-Tennessee football game that afternoon. After W. V. Byers, assistant manager, Erwin Cotton Mills Company, Durham, N. C., had interested those present in the forthcoming lunch to be served by ladies in the basement of the building, J. V. McCombs, superintendent, Pilot Mills Company, Raleigh, N. C., opened the meeting. Questions has been assigned prior to the meeting so that discussion would not lag in the regular session and so that the mill men could come prepared to be called upon for at least one question on the questionnaire. Mr. McCombs explained that the speaker on "Modern Weaving", which was to have been a feature of the meeting, would need at least 45 minutes and the use of a motion picture machine, so this talk was postponed until the spring meeting.

Effect of Gyrator on Picker Settings

The first question was, *When running a Gyrator, what machines can be eliminated and what changes do you make in re-setting pickers to prevent curling cotton in the finished lap?* V. E. McDowell, Rosemary Manufacturing Company, Roanoke Rapids, N. C., was called upon but explained that he too was seeking information on this subject; however, when the chairman asked him if some adjustment is not made in the picker would the cotton be curled, he replied that it is necessary to make some adjustment to prevent the curling of the stock. He has to cut down on the speed of the pickers and there is some further change made in their setting. He said that if the stock comes into the picker in quite a loose state when a carding beater is used, it will be necessary to reduce the speed of the beater because the cotton will curl if this is not done.

The question was asked, "Does the Gyrator clean the stock?" This was answered by a member who stated that he does not have one but that he understands that the Gyrator does much of the cleaning in that it opens the stock up and allows the trash to fall out, and also the cotton is quite loose for the following process and the trash may be knocked from the stock easily by the beaters. The chairman told of having seen cotton run through a Gyrator and then stored in the warehouse until needed at the pickers. In other words, the stock was opened up by the action of the Gyrator and then sent back to the warehouse until it was ready to be run through the mill. He did not offer to give the results secured by this method, but mentioned it as an observation. J. L. Brannan, Durham (N. C.) Cotton Manufacturing Company, brought out when using the Gyrator as a preliminary process to picking, that in the picking process it is possible to cut down on the speed of the fans because the cotton is quite loose and so high a fan speed is not necessary in the forming of the lap. It may be reduced from around 1,100 r.p.m. to 1,000 or 950 r.p.m.

Rayon Staple Fiber in Cards

The second question on the prepared list was, *How do you set your cards and what changes do you make on cards for running rayons?* At this point the chairman displayed a bobbin of carded rayon as a matter of interest. It was the opinion of one man that if the cards are in good condition and doing good work on cotton they will also turn out satisfactory work when changing over to rayon staple. The settings given by one man who is successfully running rayon staple are: doffer to cylinder, 7/1000-inch; licker-in to cylinder, 7/1000-inch; flats to cylinder, 10/1000-inch; feed plate to licker-in, 12/1000-inch; the cylinder speed is 165 r.p.m. with the doffer running 6 r.p.m.; the licker-in speed is 395 r.p.m. He finds it is best to run the top flats just as slow as possible, in his case this being one inch per minute. He also suggests setting the top edge of the stripping plate very close. He does find it necessary to increase the speed of the calender rolls and to adjust the comb somewhat differently, raising it slightly to prevent the web from sagging. The chairman asked if it had ever been found necessary to make some arrangement between the doffer and the sliver can so that the web might be supported, but the answer was in the negative on this, whereupon the chairman told of having seen a mill that had

Reported by John C. Fonville.

placed a scoop at the doffer to receive the web and support it until it is received by the calender rolls. Mr. McDowell again explained at this point that if the calender rolls are speeded up the stock is taken on through them into the sliver can before the web can break, though it does sag if this is not done. He also asked if anyone present has made a solid screen at the licker-in to cylinder to prevent the rayon staple from flying out at the side of the card and choking it up. He has had just such experience as described. Mr. Brannan, who has had 4 years' experience with running rayon staple, has tried the solid plates at the licker-in and cylinder but finds that just as good results may be secured with the regular plates, therefore he is no longer using them. He verified the other statement made previously that it is often necessary to raise and lower the comb on the card until a satisfactory web is secured—one that will not sag or be too tight. He believes that rayon can be carded better with fine wire on the card and by cutting down the licker-in speed to 300 r.p.m. He mentioned that he is using staple cut to 1½-inch lengths.

When asked by Mr. Simpson of the Glen Raven (N. C.) Cotton Mills what speed the beater should be run on pickers, Mr. Brannan replied that he is using a carding beater because the blade beater cuts the staple, and increased his breaking strength 3 pounds on 25s by changing from a blade beater to a carding beater. He sets 3/16-inch from the feed roll to the beater and runs it 600 r.p.m. Some discussion took place on preventing the laps from splitting and Mr. Brannan reported that he has discovered by building a creel in front of his finisher picker which will hold 6 bobbins of intermediate roving, and using this in with the lap much of the splitting is prevented. This roving is run on through the card with the lap again. Another question was asked pertaining to the elimination of a process of picking when running rayon. Mr. McDowell said that it is satisfactory to eliminate a process because the stock runs well on the single-process pickers. Mr. Brannan mentioned that in reading a report by Robert W. Philip, Editor of COTTON, discussing the Japanese mills, which appeared on page 73 of the March issue of COTTON, high drafts of over 30 were being run in the Japanese mills; not wishing to be outdone, he raised the draft up to 33 on his frames and finds that the work runs quite satisfactory on 31½s rayon staple.

The Erwin Cotton Mills Company was well represented at the meeting. Above: Left, P. B. Parks, Jr., Plant No. 5; center, M. R. Harden, Plant No 4; right, W. H. Miley, Jr., Plant No. 2.

Cleaning Spinning Rolls

How often do you find it is necessary to clean rolls on spinning frames since installing long draft, with or without overhead cleaners? was the third question. P. B. Parks, Jr., superintendent, Erwin (N. C.) Cotton Mills Company, Plant No. 5, reported that before installing long draft spinning the steel rolls were removed once each year and thoroughly cleaned. Since long draft spinning has been placed in the plant, the rolls are removed and cleaned three times a year. This mill is equipped with overhead cleaning. Mr. Parks explained that he believes the rolls have to be cleaned more often when overhead cleaning is employed than when it is not because of the draft that is "refracted" back under the stands after hitting the threadboards accumulating the lint on the rolls. However, he added that he prefers to have the overhead cleaning even though he believes it is necessary to clean the steel rolls more often; the overhead cleaners keep the roving in the creels clean. In his plant the front steel rolls are picked every 40 hours and the back steel rolls every 80 hours; the belts on the long draft system pick up lint and have to be picked each week with the frames running.

Mr. Brannan asked Mr. Parks to describe the system used to put on the aprons in the long draft system spinning when they break. Mr. Parks called on Mr. Hughes, the overseer of spinning at Plant No. 5, who told of using a clamp to install the aprons and a special glue that has proven satisfactory. This glue is issued in small bottles and does not have to be heated when used.

Mr. Simpson asked for a method of cleaning the back underclearers and Mr. Brannan said that he takes them out every month on coarse counts and every two months on higher counts and cleans them. M. R. Harden, superintendent, Erwin Cotton Mills Company, Plant No. 4, Durham, N. C., volunteered that his plant is on 20s and has a clearer roll on the back with a diameter of 2½ inches that is taken out every 6 months and cleaned. This roll is covered with flannel, which does not come off. He finds that removing the rolls twice a year to clean them is quite sufficient.

D. G. Floyd, superintendent, Sanford (N. C.) Cotton Mills, removes the rolls and burns them to get them clean. This method brought some comments from those present. His clearers are the revolving type. This plant is not equipped with overhead cleaners and no trouble is incurred with lint accumulating. Another man asked if it is necessary to have the rolls on the frame at all and he received a negative answer. Mr. Harden asked Mr. Floyd how often he cleans out the under rolls and the aprons on the spinning frames—this is done every 9 days, according to Mr. Floyd.

Question four on the prepared list was, *What is your method of changing aprons on long draft and what arrangements do you have when aprons are put back to assure they are running in the same direction as first installed?* P. B. Parks asked if it makes any difference which way the lap runs in connecting on the apron. Mr. Farris of the Erwin Cotton Mills Company solves the problem by never removing the aprons. The aprons are allowed to remain on the frame, but are pulled back so that the rolls may be scoured. He said that he has not had a lap to wear out yet, also bringing out that inasmuch as there are two aprons, one of the laps on the aprons must run in the wrong direction. The chairman explained that his spinner does not remove the aprons but slides them back so that the rolls may be cleaned. This is done about every three months and no laps have given trouble by coming off between times. Mr. Harden, in connection with this question, considered that about the same amount of wear is encountered with the cotton drafting and wearing the aprons as by the two aprons rubbing together.

Synthetic Roll Coverings

The fifth question, *What has been your experience with roll covering on spinning and slubbers other than cork, sheepskin, and calfskin?* brought forth much discussion on the new synthetic roll coverings. Several rolls covered with the various synthetic materials were displayed. The consensus of opinion was that these roll coverings are proving most satisfactory both in spinning and on slubbers. Some of those present agreed that "eyebrows" are occasionally prevalent,

but that the difference in the length of wear of the synthetic rolls is worth the little extra trouble of picking the eyebrows off. These rolls may be run for a number of hours without being buffed, and upon buffing may continue to be run. It was brought out that a hard end has no effect on the rolls and does not tend to groove the rolls in any way. One man told of running a type of synthetic rolls for over 14 months without their having to be buffed. Another member of the association told of placing a coin on one of the rolls while it was running and bearing down so hard that the roll stopped, still the pressure of the coin in no way damaged the cot. The chairman told of having a roll that has been running 6,230 hours and shows no wear yet. It was brought out that there are several different makes of the synthetic rolls and some prove to run more satisfactory than others, one man having trouble with a certain type of roll when starting up on Monday morning. Others have no trouble at any time with the rolls. Some of the various makes of rolls run better in the spinning than in the slubber and still others run quite well in both places. It was said that the rolls will not flute when the roving is traversing back and forth. Taking the discussion on the synthetic rolls en toto, they are satisfactory, but the mill man wishing to use them should run tests to ascertain the most suitable type for his own local conditions.

The sixth question was, *What do you consider the life of a traveler to be on a 2¼-inch ring, 8½-inch stroke where the packages are around four ounces, and on medium counts?* W. H. Miley, Jr., superintendent, Erwin (N. C.) Cotton Mills Company, Plant No. 2, said that on 2½-inch rings with coarse counts and a filling wind that the travelers last 80 hours in his plant. On the combination wind with a 9-inch stroke the travelers last about 64 hours. The chairman reported that with an 8½-inch stroke on filling wind with a 2¼-inch ring running 9s to 20s he changes once in 120 hours. He has found that even if the travelers do not come off within that time upon close examination they are turning bluish, indicating that they are at the point of giving no more service. On his coarse counts he runs a week and a half before changing the travelers. Mr. Lanier of the Oxford (N. C.) Cotton Mill said that he changes his square point travelers every 80 hours, using the 7½-inch traverse, but he can tell that the travelers are wearing after 40 hours. He believes it is best to change the travelers after 80 hours instead of trying to prolong their life and incurring bad work and more ends down.

The question was asked if travelers are lasting as long today as they did 10 years ago. Mr. Farris said that he thinks the travelers will last just as long if the spinners will not change them, but that the traveler companies cannot afford to make the travelers any harder or the rings will wear instead of the travelers. It may be that this is a faster age and the spindles are being run faster than they were 10 years ago. P. B. Parks, Jr., reported that on a 2¼-inch ring he gets 96 hours service out of his travelers with an 8¾-inch stroke, front roll speed of 190 r.p.m., a spindle speed of 7,700 r.p.m., using the combination wind.

How near standard speed have you been able to operate new long draft frames where you have eliminated one or more processes? was the seventh question. J. W. Cates reported that he runs 9,500 r.p.m. spindle speed on 24s, 26s, and 30s with one process of roving eliminated. The front roll speed on the three different numbers is from 135 to 145 r.p.m. on one-inch stock. This, he said, gives a good breaking strength and a uniform yarn on his 2-inch rings with 7¾-inch traverse. His end breakage is about 30 ends down per 1000 spindles hours, which he considers satisfactory. Single roving, 1.70-hank, is used but there are intermediate frames in the card room. P. B. Parks said that one of his plants is installing long draft roving, 8x3½-inch, and the drawing sliver goes in the back and comes out 2.80-hank roving. This is doubled in the spinning. On a 2-inch ring with the spindle making 10,000 r.p.m. and a front roll speed of 142 r.p.m., he gets an average of from 22 to 24 ends down per 1000 spindle hours on 21s yarn. Mr. Harden said his experience has been that it is possible to go higher on long draft spinning speeds, even when a process is eliminated in the card room. The chairman said on 20s yarn with a front roll speed of 138 and a spindle speed of 8800 r.p.m., using a twist multiple of 4.72, that his spinning runs well. Mr. Simpson told of getting 110 per cent speed on old frames with a warp twist of 4.75 on 12s to 19s. D. G. Floyd, who has the 4-roll system of drafting, told of taking a 68-grain finished drawing into a 1.30-hank roving, running it single in the creel to make 22½s yarn with a spindle speed of 9500 r.p.m. and a front roll speed of 142 r.p.m. He does the same with his filling only running the front roll 148 and drafting the sliver into 2.40-hank roving.

Twist in Long Draft Roving and Spinning

What changes in twist have you found necessary since installing long draft over conventional draft? was next discussed. This pertained to both spinning frames and slubbers. Mr. Brannan said that he has found from experience over a long period of time it is best to run less twist in the roving when the roving is going to spinning frames equipped with long draft. He has cut down from 1.20 as a twist multiple to 1.10. He uses double roving. W. T. Byrd reported that he is running long draft roving direct to the spinning frame and he is running practically the same twist with the long draft as he did with the old system; he does believe that it is best to run with just as little twist as possible, he himself using a twist multiple of 1.32. The chairman has long draft slubbers and is running .90-hank roving and 1.24-hank roving with drafts of about 6.90 to 7.55. It had been recommended that he run with less twist—at the present he is using 1.18. Someone also suggested that his plant use a higher twist multiple of 1.35 but so far it has not been necessary. It was also reported that no one likes to run with more twist than absolutely necessary, but that in eliminating the intermediates more twist was inserted in the roving and it is now felt that the mill has greatly benefited by this. P. B. Parks, Jr., said that in making the change in his plant no changes in twist, spindle, or front roll speeds were made. He uses a twist multiple of 1.18.

The last question on the prepared questionnaire dealt with the benefit derived from having automatic regulators on size cooking kettles, but as all agreed that these instruments were a great aid in securing a good size mix, another impromptu question was considered: *How should an end be pieced up in the roving process to prevent the end coming down in the spinning room, or to prevent a thin place in the yarn?* H. G. Lyon, Erwin Cotton Mills Company, Plant No. 4, Durham, said that he considered the best method is to lap the ends the length of the staple, but that it should not be twisted too much after it is lapped. He also said that the long draft spinning should not overdraft the length of the staple. Mr. Harden, superintendent of the same plant, explained that the roving will come down if it becomes damp and that for this purpose he keeps chalk in the creels so that the operative may use it on his hands when piecing-up an end. He has found this to be beneficial. Mr. McCombs told of piecing-up the end and then giving the roving a little back twist just as the frame starts, which is also a big help in preventing the trouble in the spinning. Another member said that it is possible to put up the end without twisting it at all if the tension is not too much, but that this will not prevent a thin place in the spinning.

Huge Crowd Attends Greenville Meeting of Southern Textile Association

MORE THAN 300 mill men of the South Carolina division of the Southern Textile Association crowded into the ball room of the Poinsett Hotel in Greenville, S. C., Saturday morning, October 23, to discuss carding, spinning, and weaving. This was the largest group COTTON'S representative has seen at any divisional meeting of the Association, the ball room being filled to capacity and many standing in the doorways and lining the back wall. Joe C. Cobb, assistant superintendent, Chiquola Manufacturing Company, Honea Path, S. C., is the general chairman of this division. Mr. Cobb, besides conducting the general proceedings, also led the discussion on spinning; R. T. Stutts, superintendent, Woodside Cotton Mills Company, Simpsonville (S. C.) plant, led the discussion on carding, and Smith Crow, superintendent Drayton Mills, Spartanburg, conducted the discussion on weaving.

Joe C. Cobb, Chiquola Manufacturing Company, chairman of the board of governors of the Southern Textile Association, and general chairman of the Carolina division. Mr. Cobb led the discussion on spinning . . .

The mill men were welcomed briefly by S. M. Beattie, who is president, Piedmont (S. C.) Manufacturing Company; president, Woodside Cotton Mills; and, president, South Carolina Cotton Manufacturers' Association. Mr. Beattie emphasized the value of attending the meetings and getting ideas from other men. He has, he continued, often been impressed with procedures that he himself did not originate, but which he was able to put into practice, and profitably; such ideas could easily arise at a meeting like the divisional discussions. Mr. Beattie touched upon the human or personal side of manufacturing and suggested consideration of those operatives to whom orders must be given. "Explain the reason for doing the job a certain way and you will get better results." He compared the operation of a textile mill to that of a well-coached football team, where each individual must co-operate in order that the plans may be executed properly. Going into the mechanical side of manufacturing, Mr. Beattie considered the introduction of long draft spinning the most important development in cotton manufacturing since the introduction of the automatic loom. The long draft spinning is important within itself, explained Mr. Beattie, but it has forced changes in the manufacturing processes preceding the spinning, which is the vital factor affecting the industry. He cited the instance of his first experience with long draft spinning, saying that he could not make it run satisfactorily—until he realized that changes must be made in the card room before the spinning could give good results. As soon as certain changes were made, the spinning operated successfully.

Reported by John C. Fonville

Joe C. Cobb, the general chairman, explained the re-organization of this division of the Southern Textile Association, under the direction of Edwin M. Holt, president of the Association, so that the division is now geographically arranged and the mill men will not have to travel so far in order to reach the meeting place of their divisions, the other groups also being effected similarly by the change. Also, this division is to be divided into two groups, each under a chairman, one group to discuss carding and spinning at the spring meeting and the other to discuss weaving and slashing at the fall meeting. The two groups will thus be able to select questions pertaining only to subjects in which they are vitally interested, and more topics and more discussion on each subject may be had. This is a progressive step for the Association and it is felt by all that the mill men will profit by it.

Carding

R. T. Stutts, who led discussion on carding, opened the practical discussions by asking *Which is the better practice: To card heavy and slow, or light and fast? What would you consider a good production on a card on print cloth, using middling and strict low middling cotton? Also give your staple length.* As there were 22 questions to be discussed, the chairman explained that only a brief time could be spent on each. In this first question it was to be considered that the card produces the same amount of sliver per hour. W. E. Hammond, superintendent, Balfour (N. C.) Mills was of the opinion that a cleaner carding sliver is secured by carding light and fast—a cleaner web is produced. He cards 9 pounds per hour on middling cotton and is getting good results. It makes little difference, according to Mr. Hammond, if the doffer is making 7 or 11 r.p.m. so long as the carding is light—44-grain to 56- or 58-grain sliver being satisfactory. George B. Moore, superintendent, Whitney (S. C.) Manufacturing Company agreed with Mr. Hammond but cards 5 to 6 pounds per hour in his plant. The chairman asked if in carding light or heavy will there be a different carding effect between the flats and the cylinder; in other words, will there be a heavier layer of cotton between the flats and cylinder when carding heavy than when carding light. J. T. Bray, superintendent, Woodside Cotton Mills Company, Greenville, S. C., replied that the card delivers just as much cotton as is fed into it. There will be the same amount of stock in the card when carding heavy or light, thereby giving the same amount of carding in both cases. Conversely, Mr. Hammond considered there is not the same amount of carding because of the difference in the speed of the doffer.

Gaston Gage, of the Clemson College textile school brought out that such a small amount of cotton is spread over the cylinder as compared with the amount fed in, that he is unable to see how the difference of a few r.p.m. of the doffer could affect the carding, when carding either heavy or light. The feed roll is turning less than one r.p.m. and the cylinder is traveling 165 r.p.m., causing less than one inch of lap on the card to spread over 2500 square inches of surface on the cylinder. This makes such a thin layer of cotton spread over the cylinder that he sees no reason why increasing or decreasing the speed of the doffer will have much effect on the

amount of carding done. A. H. Cottingham, general manager, Victor-Monaghan Company, Greenville, S. C., considered that it all depends on the type of cotton being run. He told of having taken over a plant at one time and the superintendent told him that he was getting good machinery and good help in the mill, but he was having to run the worst cotton possible. It was suggested that he card fast, which he did, and it proved satisfactory. He also forecast that because of rainy conditions he expects a low grade of cotton to be in the mills in the next few months. He cards fast on low grade cotton and slow on long staple stock. The chairman also asked if it is better to run a 40-grain sliver or a 60-grain sliver. F. D. Lockman, superintendent, Monarch Mills, Lockhart (S. C.) plant, has found it more conducive to good running work to make a 60-grain sliver instead of the 40-grain sliver because it gives even-er work.

Mr. Stutts

Long Draft Roving Frames

The second question was a discussion of one-process roving frames and Mr. Ligon of Anderson, S. C., told of making 60s from 2.60 hank roving run single on long draft spinning, upon which the breaking strength has increased 12 per cent and the number of ends down in the spinning have improved 25 per cent, using a 3-grain traveler on a 1½-inch ring with a 7-inch traverse; the loom stoppage is about the same. Mr. Bray, Woodside Cotton Mills Company reported making 4 hank roving from a 62-grain sliver and then making 30s warp from this; there are more ends down than on the regular system and the yarn seems to be puffier than formerly.

Is it best to run roving three processes in the card room and single in spinning or two processes in card room and double in the spinning? was the third question. D. A. Stancil, superintendent, Victor-Monaghan Company, Greer, S. C., is making 40s from 4 hank roving using three processes in the card room. N. G. Hardie, assistant general superintendent, Gossett Mills, Anderson, S. C., considered that it depends on the class of goods being made as to whether there shall be two or three processes in the card room and double or single creel in the spinning frame, saying "I think if possible two processes in the card room and single in the spinning is better. The goods won't look as good but you will not have as much creeling in the spinning. However, there may be more ends down by this method." Mr. Adams, Whitney (S. C.) Manufacturing Company has had experience with changing to two processes in the card room, making 40s with double creel and has found the results to be just as good or possibly a little better than on the three process method; he qualified this by saying that he did not get such good results as formerly stated when running 30s from single creel. He is making 1.10 hank roving from 58-grain sliver, using a 10x5 speeder and making 3.25 hank roving for 30s doubled in the spinning and 3.35 hank roving for 40s and 42s filling, run single in the creel on regular short draft frames.

Joe Cobb, Chiquola Manufacturing Company, Honea Path, S. C., also contended that much depends on the goods being made. On 64x60 and 68x72 fabrics he is using two processes in the card room—on 30s warp spinning he is taking a .60 hank roving to 10x5 intermediates and is making 2 hank roving running single in the creel for spinning with a front roll speed of 134 r.p.m. For the filling a .70 hank roving is run on 9x4½ intermediates making 2.60 hank roving, which is also run single in the spinning, making 40s to 42s with a front roll speed of 125 r.p.m. using 1 1/32-inch strict low middling and middling cotton. The breaking strength dropped some, but not enough to injure the weaving inasmuch as his plant had already been running with a safe margin of break before the change. The yarn is not as even as before the change but on this class of goods it is much easier to operate successfully than on 80x80 fabrics. When asked how the weaving was made to run as well when the breaking strength of the yarn dropped, Mr. Cobb replied that he is doing more cleaning in the spinning room now and has also improved the slashing, compensating for the lower break encountered.

The next question was a discussion of drawing frame speeds and Sam Maddox reported a front roll speed of 190 r.p.m. on a 1¼-inch roll making a 64-grain sliver, securing good results. "I run my front rolls 260 r.p.m., which is excessive," said W. W. Cobb, superintendent, Norris Cotton Mills Company, Cateechee, S. C., "but we have got to get production. If you can run slower it will be much better. If the rolls are run over 260 r.p.m. the work may be damaged. I make a 50-grain sliver and 30s and 40s yarn. The rolls are metallic." Mr. Hammond is running 265 r.p.m. with 1¼-inch metallic rolls, but would prefer to run 200 r.p.m. When metallic rolls were first placed on the market it was suggested that they be run 300 r.p.m. but when the mills did this they traced much bad work to high speed.

Mr. Hardie

Following this was a brief discussion on synthetic rolls for use in the card room. One man reported having the rolls in his plant on a few drawing frames but has trouble with *eyebrows*, and when the weather is cold the rolls will not run, whereas when it is hot he is troubled with lap-ups. Mr. Hardie thought that the rolls are a good thing in drawing but has had no experience in the card room—he said he believes the synthetic rolls give longer and better service than anything he has used. W. J. Still, superintendent, American Spinning Company, Greenville, S. C., is using some of the synthetic rolls in drawing and is pleased with them, except for a number of eyebrows. These are picked off regularly.

Discussing the proper speed for a vertical opener, one man reported his as running 625 r.p.m. and another as 835 r.p.m. on the screen type. Mr. Robinson runs his 750 r.p.m. and carries 1000 pounds through per hour. Another member has two vertical openers and runs one 650 and the other 750 r.p.m. but can tell no difference in the condition of the stock processed on each.

Humidity in the Picker Room

Should humidifying apparatus be placed in the picker room? was the seventh carding question. It was the opinion of one man that inasmuch as the air is changed so many times per hour, due to the exhaust fans, the room would have to be practically covered with humidifiers to keep the room at any constant degree of relative humidity. Mr. Lockman of Lockhart said that he was told the same thing but that he has them in his picker room, and according to the regain indicator he is able to control the moisture in the stock in the room. The humidifier heads are placed back of the opener and in front of the finisher. W. W. Cobb uses them in his plant, and said that because of the various cottons run and the difference in moisture content of them, the mill will

be less likely to come to grief if the humidifiers are used. Mr. Gage of Clemson College considered the humidifiers a good point if the air *could* be controlled, and submitted figures to show that the room air is changed every 5 minutes (in room 75x60x18 feet). Mr. Lockman further said that he had those same figures submitted to him, but with 18 humidifier heads in his picker room, he is able to wet-down the room completely. Formerly he had 36 fans exhausting to the dust house but is now only using those on the condensers.

When asked about a system to check on the amount of singlings and doublings that are returned to the card room from the spinning room, Walter Danhoff, Chiquola Manufacturing Company, Honea Path, S. C., said that the first thing is to have some sort of mark or check for each operative in the card room by which his work is identified. Then the work is checked in the spinning room and all bad work sent back may be traced to the operative making it. A record is kept of faulty work and thus it is corrected. He also said that most of the improperly done work in the card room is caused by just a few operatives. Mr. Morris of Simpsonville has the spinning room make a check every day on all bad work, including singling, doubling, tangled roving, and gouts. This report is sent to the card room so that faulty work may be corrected before it becomes general.

Weaving

Smith Crow, superintendent, Drayton Mills, Spartanburg, S. C., took the floor and conducted the discussion on weaving. The first question pertained to overcoming the difficulty in making a fabric roll up tight on the cloth roll when there is a raised stripe, such as a satin stripe in it. Mr. Stancil was called upon but reported as not having had any trouble; he offered that possibly the cloth roll might be binding, causing such trouble. Another gentleman reported that when running a stripe the stripe becomes soft (on a cord) and he uses a cloth roll with a larger diameter, remedying the trouble of the cloth not winding up tightly on the roll.

The second weaving question dealt with methods of setting check straps and the life of a check strap. Mr. Lockman at one time had used a check strap 22 inches long but found that it was most too long to do its work properly, and caused much kinky filling. He then changed to the 17½-inch check strap and eliminated much of this weaving defect. The longer strap worked in too much of an arc whereas the shorter strap remained close in to the lay and checked the shuttle much more efficiently. He also told of using the 22-inch check strap but setting it on the loom so that it had a much shorter check, which also helped to prevent kinky filling. He named several types of straps, saying that their lives ranged from 5 months to nearly 2½ years. The new picker stick was mentioned that strikes the check strap in the center instead of on the edge, and this is said to be a great improvement.

Are there any advantages or disadvantages in using cork or rubber take-up roll covering over the regular sandpaper on light cotton cloth? was the next weaving question. J. C. Martin, Wellington Mills, Inc., Anderson, S. C., said that his plant has had experience with every type of take-up roll that has ever been on the market, but the most satisfactory results have been on the old style tin fillet. On the sateens run, the cork roll will help for a long while, but it wears out quicker than the tin fillet. When asked by a member if the size of the tin fillet made any difference in the number of picks per inch, Mr. Martin replied that his plant runs goods with from 180 to 56 picks per inch and that no difficulty is encountered with the size of the fillet changing the construction of the goods. Mr. Franks, Republic Cotton Mills, Great Falls, S. C., reported that he is running a number of different constructions and has to make allowance of one tooth in the pick gear when changing from the tin fillet to the cork roll in order to secure the same number of picks per inch in the cloth. He prefers the tin fillet for quality work.

What are the causes of "beads" forming on individual ends between the reed and harness in broadcloth warps? How do you overcome this? was the fourth weaving question. E. T. Lollis, Grendel Mills, Greenwood, S. C., has found that these beads are caused by the amount of twist in the spinning room and the cleaning in the spooling and warping. He also mentioned that it is necessary to have the proper setting on the snick plate on spoolers. Mr. Lockman explained that beads are caused by the slasher—there not being enough binder in the mix to keep the fibers from sticking up and being chafed by the harness, drop wires, and reed. Too much tallow or too much acid in the size will often bring on this trouble. The thread of warp must be sized well enough, and sized with enough binder, to hold the fuzzy ends down. W. J. Still agreed with Mr. Lockman on these points. Mr. Franks also considered that many of the beads are caused by sizing the yarn improperly. He has found that by changing the squeeze rolls on the slasher from the old type of 360 pounds to a heavier roll of 560 pounds, back and front, many of the beads are eliminated. It is also necessary to keep good blankets on the rolls.

Mr. Crow

Enameled Versus Shellacked Quills

The fifth question on weaving was *Are there any advantages in using enameled quills over shellacked quills on rayon yarns that are not to be conditioned?* Mr. Hardie prefers the shellacked quill if the rayon filling is not to be conditioned because with the enameled quill there is a tendency for the filling to slough off in the cloth. It was the opinion of Mr. Snyder of Drayton Mills that the shellacked quill is easier to bruise and consequently will injure the filling more in the shuttle than the enameled quill. Mr. Stancil said that both the enameled and the shellacked quill will give some trouble when running rayon. For filling that is not conditioned, he has sanded the enamel from his enameled quills and treated them with a mixture of spindle oil and shellac, which has given a finish proving highly satisfactory. He believes it necessary to use the enamel-treated quill for filling that must be conditioned.

Next followed a discussion of cutting fur for the rayon shuttle in Draper looms, and the buying of fur in strips or hides. It was the general opinion that if a dozen loom fixers were asked this question, a dozen different answers would be secured on the method of cutting fur for the shuttle. Much depends on the fabric being run, the denier of rayon, the size of the shuttle, etc. Most of the men buy fur in strips so there is no waste in buying the hides and cutting strips at the mill. It was reported by a man running cotton instead of rayon that he is experimenting with putting a strip of fur on each side of the shuttle to prevent the ballooning of the yarn, but he has not been running the test long enough to give a conclusive report.

The next topic was a discussion of harness skips in broadcloth. This defect, like the poor, is with the

(Continued on page 104.)

Tennessee Division of STA at Knoxville

THE TENNESSEE DIVISION of the Southern Textile Association held its fall discussion meeting at the YMCA in Knoxville, October 30, with a small but interested crowd participating in a prepared questionnaire pertaining to carding, spinning, and weaving. B. W. Bingham of Knoxville, general chairman of the division since its inception nearly two years ago, led the meeting, which consisted of a single morning session adjourning in time for the members to attend the Tennessee-Georgia football game during the afternoon. David Clark, managing editor, *Textile Bulletin*, Charlotte, N. C., spoke briefly, encouraging the men to continue to attend the discussion meetings, he himself having long watched the Association and having seen men developed through the helpful contacts made and ideas secured.

Mr. Bingham

The first carding question was a comparison of this year's cotton crop with that of last year's. J. R. Mathes, cotton classer, Brookside Mills, Knoxville, Tenn., considered that this year's crop is not so clean as the crop raised last year and the staple is not so long. He also thinks the character of the present year's raw stock is not up to standard, the cotton being ginned in a number of cases while still damp; also the color is a little off. Most of the cotton that Mr. Mathes has had experience with this year comes from Mississippi. One member reported as noticing no difference between the two years' crops and has been running it in his plant for about a month already. L. Baxter Colbert, overseer of carding, The Trion (Ga.) Company, a visitor to this division in the delegation headed by A. D. Elliott, superintendent, The Trion Company, Trion, Ga., said that his plant has previously used 7/8-inch local cotton but inasmuch as there is no cotton of this staple obtainable, it is now using one-inch stock. He has noticed that the local (Georgia) cotton is better in staple than last year's, even though it contains somewhat more moisture. At first a bit of difficulty was experienced in starting up, but now the cotton from this year's crop is running better than that of last year. C. O. Morgan, Dixie Mercerizing Company, Lupton City, Tenn., plant, believes the present year's crop is inferior in every respect to that of last year. The color is off, the staple evenness is not as regular, and the character is not so good. He attributes this to the many rains during cotton season. Neps are prevalent in the 1937 crop.

Along this same line, it was asked if it is better practice to blend the old and new cotton or to run all of the old cotton out of the plant and then begin the new stock by itself. One man considers it better to keep the two crops separate, running the old stock completely out and then beginning on the new cotton. "You are going to have a certain amount of trouble in running the new cotton anyway, so I am in favor of running it by itself from the start." This man is a representative from a fine yarn mill and uses staple from 1⅛-inch to 1 5/16-inch. The chairman told of visiting a fine yarn mill and discovered that the moisture content in the stock proved to be from 12 to 14 per cent. The cotton had been ginned in a damp condition, was gin-cut and curled, and the mill was having difficulty with it, especially with the curled stock. James Ashe, Standard Knitting Mills, Knoxville, Tenn., believes it is better to get rid of the old stock and then start the new as there will be less difficulty in keeping on the correct numbers due to the moisture in the cotton. A visitor from Georgia said that in light of the excessive moisture in the cotton, he prefers to run the new crop mixed with the old.

The third carding question concerned the speed of a vertical opener, with a production of 800 pounds per hour, to run on 1¼-inch cotton in order to prevent the cotton from curling. George Williams, overseer of carding, Cherokee Spinning Company, Knoxville, was of the opinion that much depends on the use to which the cotton is to be put, the goods to be made, etc. He formerly ran his vertical openers at a speed of 700 r.p.m. but has reduced them to 600 r.p.m. and is now getting good results. Another man reported as running the vertical openers from 750 to 800 r.p.m. on ⅞-inch and one-inch cotton. Standard Knitting Mills run a speed of 750 r.p.m. on 15/16-inch and one-inch stock. Mr. Morgan of Dixie Mercerizing Company in answer to a question by the chairman, said that his plant does not use the vertical opener inasmuch as it is desired by his plant to keep the stock away from as much beating action as possible.

The fourth question was *In the picker, how many beaters should be used when running 1¼-inch cotton; what type of beaters; speed; number of blows per inch; beater setting to feed roll?* It was reported from one plant that very little cleaning is done in the opener room. "We use a 40-inch porcupine beater on 1¼-inch staple and it makes 350 r.p.m. It is best that this beater not be run over 400 r.p.m. to secure the best results. We have single process pickers and use three beaters. The second beater is of the three-blade bar type and makes 800 r.p.m. The finisher beater is a three blade Kirschner that runs about 940 r.p.m. We have tried the bar beater on the front but we prefer the pin beater as the finisher. On the blade beaters we set to ¼-inch and have been doing same on the Kirschner beaters. We give the cotton about 40 blows per inch." A visitor to the division has one type of beater making 800 r.p.m. and a carding beater on the front making 1000 r.p.m. The setting is 3/16-inch from feed roll to beater. Mr. Ashe makes a setting of 3/16-inch from feed roll to beater, the speed of which is 1050 r.p.m. on one-inch cotton. David Clark, Charlotte, N. C., said that a number of

---

Reported by John C. Fonville

years ago he had ground cards and was especially interested in the different settings of the beaters now and then. He has found that if the carding beater is set just as close as possible to the feed roll that better results may be secured. More of a carding action is obtained. If the beater is set closely, it will remove just a small amount of the stock at each turn, whereas, if the setting is off a good bit, the cotton will be pulled from the feed roll in tufts. The chairman also agreed with Mr. Clark's line of thought and said that no matter how close the Kirschner beater is set, it will not injure the cotton.

He also said that he has run tests on the number of blows per inch that are conducive to good beating and picking, and has found that from 20 to 25 blows per inch are better; if the blows are either more or less than 20 to 25 the cotton may be curled. One man reported that much depends on the length of staple being run. The same speed cannot be run on 15/16-inch cotton as on longer staple. He does not like to go above 900 r.p.m. on the beaters. His Kirschner beater is set to 3/16-inch but he agreed with Mr. Clark on the closer setting and will try that in his plant. The chairman told him that he would find the closer setting better but would have to slow the beater down lower than 900 r.p.m.

The fifth carding question was on the settings used on the card for 1¼-inch cotton. It was reported that one mill sets just as close as possible without the parts rubbing and keeps the card very sharp. The comb is set to the doffer with a full gauge because it is thought that more trash is removed when this is done. Still another member reported as setting just as close as possible but gave the following setting as being the usual distance arrived at in setting by this method: flats to cylinder, 8/1000-inch; feed plate, 10/1000-inch; licker-in to cylinder, 7/1000-inch; doffer to cylinder, 7/1000-inch. Mr. Ashe makes the following settings on one-inch cotton: flats to cylinder, 10/1000-inch; licker-in to cylinder, 7/1000-inch; and comb to doffer, 10/1000-inch. The chairman believes it is better to set the comb off as much as 34/1000-inch because this is thought to knock out more trash than the closer setting.

The sixth carding question was a comparison of long draft roving frames with conventional draft regarding evenness and breaking strength. Mr. Elliott said that he has an installation of slubbers equipped with long draft and the roving looks nice that comes from them, but no comparison with the conventional frames can be made inasmuch as they never did draft as long as the present frames. Mr. Colbert stated that the drafts in this same mill being run were 27 and 28, the work running well in the card room. The breaking strength varies, sometimes being about the same and sometimes a trifle under the breaking strength on the conventional frames.

The first spinning question was a comparison of yarn made from single roving on long draft roving frames and double roving on the conventional frames. G. R. Goodwin, Brookside Mills, Knoxville, contended there is a good margin of difference between the two methods, though it is done. He believes that the processing of the roving made single must be "just right." Cleanliness in long draft spinning was taken up and it was agreed that long draft spinning is more difficult to keep clean but that the overhead cleaners are a great aid in helping to keep the frames clean.

Next followed a question on the life of leather-covered top rolls. E. W. Hill, Dixie Mercerizing Company, Lupton City, Tenn., said that one roll per spindle per year is required in his plant. Another member gave 25 rolls for 80 hours per 1000 spindles as the number used.

The last spinning question pertained to synthetic top rolls for roving and spinning. A. F. Fentress, Koroseal sales department, B. F. Goodrich Company, told of having a number of installations of his product in mills throughout the South, satisfactory results being secured. He did mention that some of the plants have had trouble with the synthetic cots on drawing frames where revolving clearers were used. He told of mills that use a clearer with sheep hide containing the original wool on it, which is quite satisfactory. He mentioned "eyebrows" as being prevalent with the synthetic cots but said that though some superintendents do not prefer the rolls for this reason, others like to have the lint accumulate where it can be picked away easily. His product is said to increase the breaking strength of yarn and to have a drastic drafting action. Mr. Fentress told something of the manufacture of Koroseal and its qualities; it will not pack, groove, or hard ends will not affect it, according to him.

Weaving

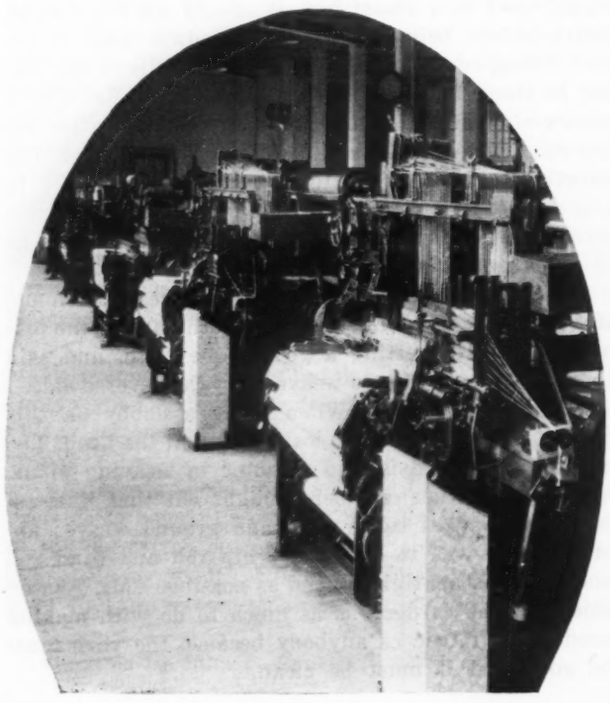
A brief questionnaire was prepared for the weaving department. Pickers were discussed and most of the men prefer the leather picker. One member brought out that the life of a picker is greatly increased or decreased by treatment it receives from the loom fixer. C. R. Bolding, assistant superintendent, Brookside Mills, Knoxville, prefers the leather picker on a plain loom.

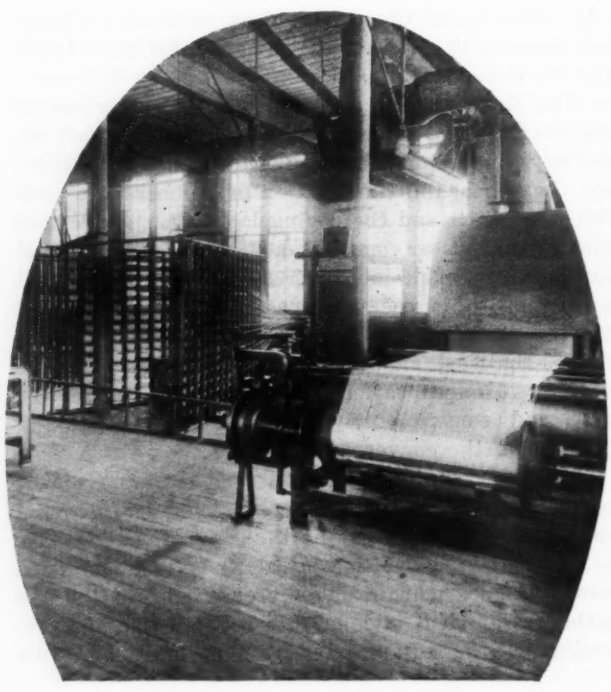
The members then discussed conditioning of filling. Mr. Ashton contended that after the filling is conditioned in a steam box, it should set for several hours before being used. Mr. Goodwin uses .5 per cent filling conditioning penetrant and allows the filling to stand 16 hours after conditioning. Mr. Elliott allows his filling to stand about three hours after being conditioned (15s) and uses from ¼ to ½ per cent penetrant. He gets better conditioning with ¾ to one per cent penetrant, but had some difficulty with streaking, which was alleviated when the percentage of penetrant was reduced.

The running of pique fabric was next taken up. Mr. Bolding considered a good smooth yarn as the primary factor in getting a good pique cloth, and said that it is a good idea to weave it on the reverse side—with the face down. When using a dobby on this cloth it is best to have no lost motion in the head. The depth of the shed is also a factor in weaving pique, he said. Another member brought out that it is essential to have a tight warp and ground weave; another point was to drop the whip roll and sand roll and have just as tight a shed as possible. Mr. Ashton said that the carder has as much to do with making good pique fabric as anybody because the yarn must be good and it must be clean.

TEXTILE SCHOOL VIEWS

On pages 70 and 71 of the August issue of COTTON there appeared several views of the textile schools, located in various parts of the country. There are about a dozen of the schools devoted to teaching a wide diversity of textile subjects. These views are being presented because of the specific bearing of the schools on the textile industry, and because of the interest of the textile industry in them. Of late there have been conferences of the heads of the schools, working to ascertain the needs of the industry, and the manner in which the schools may best serve the industry. The photo at top shows a group of students attending a practical class in knitting at the A. French Textile School, of the Georgia School of Technology, Atlanta, Ga. The view at the left is the weave room at N. C. State, Raleigh, N. C., and the picture at the lower right shows a slasher and warper at the Bradford-Durfee Textile School, Fall River, Mass.





The Callaway inspection party at the Southwest LaGrange Y. M. C. A.

Inspection Tour of the

Callaway Mills

PARTICIPATION in the second inspection tour of its properties in LaGrange by the Callaway Mills last month furnished impressive demonstration of the practical possibilities of such inspections for other multi-plant organizations in the industry, as well as for some of the larger strategically-situated single plants.

The inspection of the Callaway plants at LaGrange was held on Monday and Tuesday, October 11 and 12. Those attending included the officials and operating staff of the organization—and a guest list composed of local educators, editors, ministers, legislators, peace officers, and LaGrange business men, and several other guests identified with the industry. The two days were spent in a thorough, scheduled inspection of all of the Callaway properties in LaGrange, including the seven mills, the vocational school and testing laboratory, the research building, the community buildings and other activities. On the first day, the party, consisting of approximately 130 men, visited, in order the Unity, Elm City and Valway plants, having lunch at the Y. M. C. A., and in the afternoon the group drove through the communities of Southwest LaGrange; stopped at the Callaway stadium for a program given by the Junior Drum and Bugle Corps of the local American Legion post; visited the Hillside plant, the school, and the research building. Monday evening, the party was entertained at a barbecue at the lake lodge of Fuller E. Callaway, Jr., president. Tuesday morning, the Calumet LaGrange, Unity Spinning and Oakleaf plants were inspected, with a luncheon at the country club concluding the tour.

The stimulation and inspiration of such a regular inspection for the members of the organization are self-evident. It supplies a contact for each member of the general force with all of the company's interests in a way that is difficult to achieve in every-day operation; and for the men from each plant, it promotes a broadened conception of the organization as a whole and creates a fuller understanding between the local plant men. The broader significance, however, is in the benefit derived from the presence, on invitation, of the other group—the ministers, the educators, the legislators, etc.—because of the opportunity given to these men to see first-hand the operation of a mill and its related activities. The composition of the southern textile community is such that the interests of these men, though they are not directly connected with the mills, are closely interwoven with the interests of the mills, and such contacts are without question mutually beneficial and conducive to better understanding.

We know of several instances wherein important local and state legislators have confessed that, living almost within the shadow of a mill, they had never before seen the mills and their properties first-hand, and such cases must be general throughout the industry. Such inspections do much toward creating a fuller recognition of mutual problems and interests and dissipating misunderstanding and prejudice. As Fuller Callaway expressed it, in speaking to the group of invited guests on Monday evening: "We officers of the Callaway Mills consider that we hold these properties in trust for the public, of which you are the representatives, and so we ask you to come, once a year, to see how we have carried out our responsibility to you in their operation and maintenance."—R. W. P.

Miller Manages New Departure Sales and Engineering Office

Frank J. Miller has been named as manager of sales and engineering in the Chicago office of New Departure, a division of General Motors Corporation, succeeding G. W. Fowler, deceased. Mr. Miller has been associated with the company's sales activities in the Chicago territory for over 18 years.

Continental-Diamond Booklet

Continental-Diamond Fibre Company, Newark, Del., has published a 20-page booklet descriptive of Micabond, a bonded mica insulating material. This material is said to be impervious, for all practical purposes, to the flow of electricity. The booklet carries pictures of Micabond in the making; specification tables are also included.

CURRENT TEXTILE TOPICS ....

Talk of the Month

IF ONE looked at the economic situation late in October as discounted by the stock market, it was a gloomy prospect. Whether from undue restriction upon security operations through government regulation, or fatalistic psychology, the trend of stocks was something to suggest the end of a prosperity wave and the beginning of another depression. But the stock market, far from being a consistent barometer, even in its freer days has gone beyond rational limits up and down.

Curtailment May Rebuff Some of General Slump

It was cited by keen economic observers, when stocks were indicating demoralization, that world conditions did not warrant expectations of a new depression at this time. Such a turn, on the basis of precedent, would not eventuate until business had made a full recovery from the last depression and that has not been achieved yet. Furthermore, the United States is justified in looking for a further upturn if only on the fact that this country has not had a recovery commensurate with that abroad.

Fortunately business does not depend upon the stock market, although a prolonged disturbance in the securities has deleterious effects upon other trading until it passes. Fundamental conditions in the long run are paramount to the psychological factors which enter so forcefully into the ups and downs of stock prices. Stocks outrun a rising tide of industrial, agricultural and other prosperity. They also over-discount a normal ebb in business.

As to the fundamentals of the cotton industrial situation, naturally the outlook depends upon outside conditions and mills will have a healthy business only as general prosperity belies the stock market of October as a barometer. The outlook for cotton goods, or for mill prosperity, also depends upon the progress of relations between private industry and labor.

After the extremely bearish position culminating early in October, the cotton goods market gave evidence that business men were accepting the decline since spring as merely a logical reaction from the over-expansion in the erstwhile recovery movement. Commodity prices in general, under the impetus of buying to fill up inventories depleted in the depression, shot up to untenable peaks in the spring of this year. Industrial orders piled up sufficiently to keep operations going for many months.

Then came a natural pause in buying. Merchants were taking in goods at the relatively high prices. The commodity prices began to sag and buying of the same dropped off, weakness being accentuated by Administration warnings against inflation. Retail business had gathered a high momentum last fall and merchants got into the habit of figuring gains over a year previous, failing which on higher cost goods, a wave of pessimism developed in recent months.

Readjustments have been made all along the line, however, with goods following the decline of commodities which has not only wiped out the spring peaks but previous price advances for more than a year. No readjustment has been so severe as that in raw cotton and gray cloths, this creating difficulties for those who bought heavily at higher prices and were forced to liquidate in relation to the new standards of value this fall.

Under the circumstances, the fortunate thing for the cotton manufacturing industry is that the mills have pursued a generally sound program of operations. Prices obviously had to follow a break in raw cotton which cut the price practically in half over a period of six months, erasing the rise of 4½ years. The decline was orderly, however, and the climax of the cotton drop was quickly followed by a firming of gray goods on a substantial buying movement.

This may be attributed to the fact that mills extended curtailment broadly as the demoralization in raw cotton extended. October brought a widespread retrenchment in output, accentuating curtailment since spring. Then came the President's message, with his proposal of farm legislation and the suggestion of a new control program along AAA lines. With mills not accumulating stocks, the sign that prices for cotton and gray goods were at bottom was a cue for buyers to cover prospective requirements.

Pre-supposing that business was about ready for another forward movement from a new starting point, the cotton industry came into the present month with an encouraging outlook. The economic-political situation remained as a question. What will come of the President's indicated desire for further and drastic political control of labor relations in private business is the question now disturbing cotton mill men, along with other industrialists.

Declining commodity prices have had one sinister influence because they ran counter to wage tendencies in the spring. The higher wages remain and goods prices forced down by the trend in raw cotton reached unprofitable levels. This makes proposed legislation more serious and even many union men have recognized that wage agitation is out of place at present. As stated by T. M. Marchant recently, new legislation along indicated lines, if enacted, will drive many small producers to the wall. Thus intended altruism would prove a curse to labor itself.

THINGS have been complicated for the cotton mills of the New England district as elsewhere through the fall, but with manufacturers coming into the present month hopeful of a turn from drastic reaction. After the spring peak, indeed before it had run its course, experienced mill men of New England foresaw a normal reaction and began to prepare for it by adjustment of output. They had to keep on adjusting until October, as complications arose.

"BEST SERVICE from ANY BELT!"

"THE finest belt we ever had on our compressor drive," is the way the superintendent of a large South Carolina textile mill describes the Goodyear COMPASS Endless Cord Belt pictured here. It was applied early in 1932 on specification of the G.T.M.—Goodyear Technical Man—who recommended it to eliminate slip and stretch troubles which had been a constant annoyance on this drive.

After nearly five years' service, far longer than any other belt ever lasted on this drive, it has just been removed and replaced with another COMPASS. In all this time there was no slip and its slight stretch was well within the take-up margin. "Compass is the belt for us from now on," says the superintendent enthusiastically.

Let the GTM help you

If you are having belting difficulties on your heavy duty blower or compressor drives, it will pay you to consult the G.T.M. Let him show you why COMPASS' patented endless cord construction makes it the most nearly stretchless belt obtainable—why it long outlasts other belts with a minimum of adjustments.

The G.T.M.'s recommendations have helped many mills reduce their belting costs to an all time low. To bring him to your office for consultation, just write Goodyear, Akron, Ohio, or Los Angeles, California—OR THE NEAREST GOODYEAR MECHANICAL RUBBER GOODS DISTRIBUTOR.

BELTS
MOLDED GOODS
HOSE
PACKING
Made by the makers of Goodyear Tires

THE GREATEST NAME IN RUBBER

GOODYEAR

For one thing, a spirit of pessimism developed throughout the business world and became rampant on the demoralized movement of prices for securities. Psychological factors in business are intangible, but intangibles are very real influences. On top of this a very tangible factor in the mill situation was the coincidence of an extraordinary cotton crop with generally depressing elements.

Under the circumstances, a healthy action among cotton mills was the further sharp curtailment of production when October brought an intensification of the dullness in goods trading that had been manifest for about six months. All along it has been a feature of the goods market that fine goods were relatively firm in the decline of prices and this was due to leadership in curtailment. At the low point, it appeared that fine goods were the most stable and ready for a turn.

New England Mill Situation

During the long spell of slow business and steadily declining mill activity, manufacturers have had occasion to give their attention to fundamentals. The National Association of Cotton Manufacturers had its annual meeting at Providence, R. I., in October and discussed the underlying developments of the industry. While the President had not announced the special session of Congress, cotton manufacturers naturally were looking ahead to legislation and expressed their views thereon.

Russell T. Fisher, president of the association, said: "We are definitely opposed to regulation of the industry through a commission as proposed in the Ellenbogen Textile Bill and the Black-Connery wage and hour bill. We do favor a maximum work week; we do favor a minimum subsidence wage for each industry; we also favor the elimination of the employment of women and minors on the graveyard shift."

On the thorny subject of wage differentials Fred W. Steele, legislative chairman of the association, declared that a uniform scale on a nation-wide basis would work no hardship on the efficient manufacturer in any section of the country. It would force the chiseler into line, he said, and increase the purchasing power of the low wage areas.

Mr. Fisher attacked the Federal trade policy, citing the proposed reciprocal trade treaty with Czecho-Slovakia. "The imports of cotton goods from that country are not specialties, but are similar to the products of our northern mills," he said, "and while Czecho-Slovakia is not a large cotton manufacturing country . . . any concessions granted Czecho-Slovakia would be applicable to all countries except Australia and Germany."

While the Administration leader, in calling for an extra session, appears to be committed to the same old program of labor legislation, recent developments have suggested that the time is hardly apropos from the standpoint of workers themselves. The union movement, notably that of the CIO, has not had the smooth sailing of several months ago since general business stalled. Workers themselves have found it the part of wisdom to consider their jobs above organization for they know not what.

When workers find themselves on shorter time, they are apt to look more closely at the payment of dues into the coffers of an outside leadership. When, as in the case of the Aspinook Company of Jewett City, Conn., they find an employer exercising his right to refuse domination by labor (even if it means liquidation) the workers realize that they have an obligation. The result was a request by a new group calling itself the Independent Textile Workers of Jewett City that the company reconsider its announced intention of liquidating.

Not in the cotton textile branch, but significant for the industry, was the move also by workers in the worsted division of the Pacific Mills at Lawrence, in forming an independent employees' association for bargaining with the company. This action, involving several thousands of workers, is the more notable as following the conquest by the CIO of the two large Lawrence mills of the American Woolen Company.

The Otis Company has sold its Ware Mills, at Ware, Mass., to a southern syndicate headed by Lawrence W. Robert, of Atlanta, Ga. The purchasers, it is stated, do not intend to produce goods competitive with those of the seller, but will install new machinery and will employ more workers than the plant has had before. The Otis company will transfer production of awning cloth, pinchecks and other heavy duck material to the Columbia Mills of Greenville, N. H., which they operate.

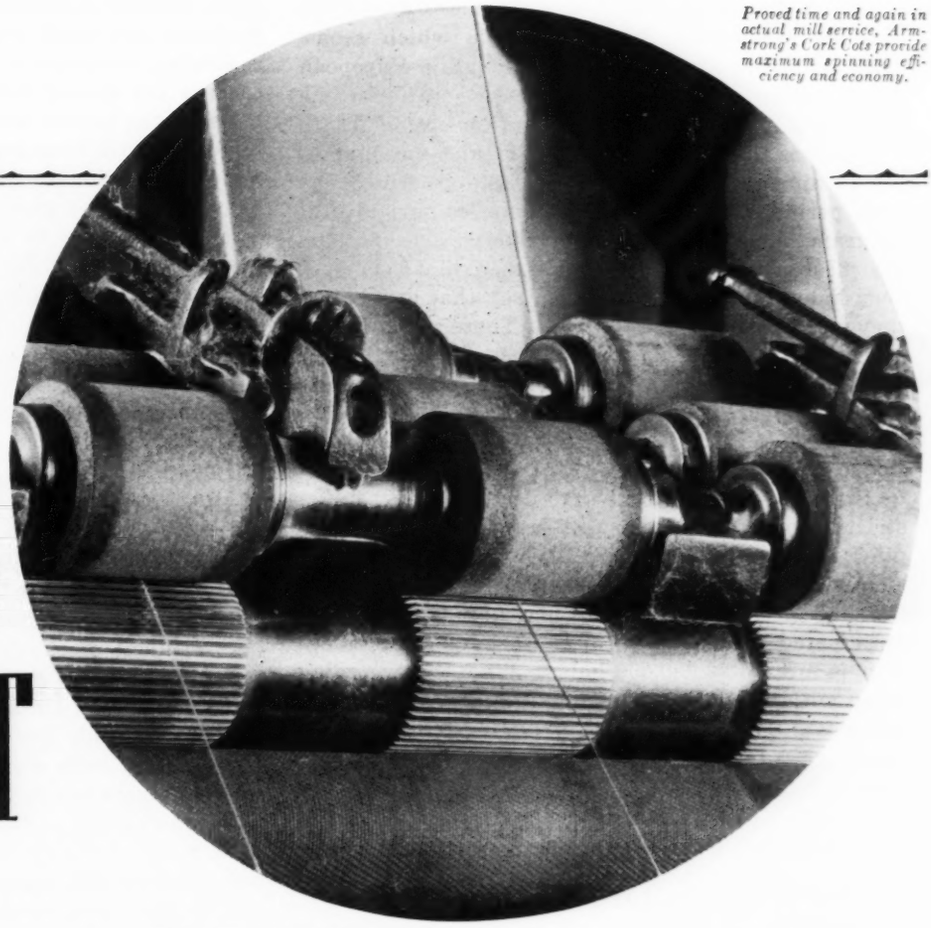
"THE SITUATION"

As Seen Across an Executive's Desk

October 18, 1937

THIS PAST MONTH was marked by the most disastrous slump in the stock market since 1929—one in which we saw wiped away millions of dollars in quoted values built up laboriously during the last five years. Actively traded commodities and bonds went down with stocks, and cotton futures fell heavily carrying contracts around the 7-cent level despite Federal loans to growers of as much as 9 cents on the better grades. Cotton mill stocks dropped, as was to be expected; trade in all grey goods was inhibited; retail sales slowed up, particularly in the South where the price of cotton seed dropped to half as much as in 1936 and hampered spending ability of the farm class. Despite all this bad news market students refuse to feel that the extreme pessimism which replaced the optimism of a few months ago, is warranted. It is overdone, they say, and set forth their reasons which are all good.

We all forget that business is just like building castles on the sand. We work and work and the castle becomes a thing of beauty but before we know it, and when we least expect it, a wave will destroy in a second that which took us hours to build. The tide turned, our work is undone, but the sand is still there and we are still willing, so before too long we have another sand castle to take the place of the former demolished gem. We must remember that and take cognizance of the events about us.



Proved time and again in actual mill service, Armstrong's Cork Cots provide maximum spinning efficiency and economy.

HOW MILLS PROFIT

from the extra DURABILITY *of* CORK

PRACTICALLY all of the properties of cork are based either directly or indirectly upon its unique cell structure. And the unusual wearing quality of cork is no exception!

Because cork consists of millions of tiny cells of entrapped still air, *this* material will not readily deteriorate and become less efficient as time goes on. It withstands abrasive wear to a remarkable degree. And no amount of compression that is practical to apply will break down its structure.

In spinning yarns, this great durability of cork means longer wear . . . less damage from hard ends and top roll laps . . . fewer roll changes. In mill after mill, through years of actual production service, cork has proved it can "take it." And when its durability is combined with cork's other features—its high coefficient of friction, resistance to lateral flow, resilience, and resistance to liquid penetration—a roll covering material is provided that spins a stronger, more uniform yarn—*and roll covering costs are reduced 50% or more!*

Many improvements have been made in cork roll covering since Armstrong pioneered the first cork cot more than twenty years ago. The latest development is Armstrong's *Extra Cushion* Seamless Cork Cot. For complete information and samples of this new cork roll covering see your Armstrong representative or write direct to Armstrong Cork Products Co., Textile Division, 923 Arch St., Lancaster, Penna.

FOR SPINNING AND CARDROOM ROLLS

ARMSTRONG'S EXTRA CUSHION SEAMLESS CORK COTS

ARMSTRONG HAS MADE CORK PRODUCTS SINCE 1860

The world is in a critical state these days with the long drawn-out Spanish trouble which seems more apt, from day to day, to burst into a European conflagration and the Sino-Japanese conflict which involves one of our largest markets for cotton. These two things alone are enough to disquiet any market but to top that off, to the United States, which has for a period of years been on a curtailed agricultural program, comes a year of unhampered acreage plus the most marvelous growing season that has ever been known. Good dirt farmers say that every seed they planted sprouted and grew. There was a bumper crop in all commodities, and according to the October 8 cotton report we face the second largest cotton crop in the history of the country with 17,573,000 bales. (The largest crop was 1926 with some 18,000,000 bales).

Strange paradox it is that despite the crop restriction program of the past few years cotton supplies today are higher than they were in 1933, the current estimate of world supplies of cotton being the largest on record: 50 million running bales. The anticipated consumption of cotton for the coming year is around 33,000,000 bales. What are we going to do with the carry-over and what are we going to do about the evident over-production? Obviously, there are only two things we can do; curtail production and find new uses. They are old methods but despite the old-fashioned tone quinine is still the only safe cure for malaria.

Another Processing Tax

Governmental agencies have already outlined their first steps in a program to do what they can toward halting the decline of raw cotton prices and its alter ego, cotton seed prices. A special session of Congress was called by President Roosevelt as of November 15 for the specific purpose of going into that, but, whatever the method of curtailment evolved from this Congress, it is fairly certain that it will be paid for by a processing tax from the cotton-textile mills. This is laid to the statement made by Secretary Wallace when in Memphis recently he delivered an address to approximately 3,000 farmers who had gathered from all parts of the deep South to hear him. Mr. Wallace did not directly commit himself to a processing tax but said the only way to overcome a higher tariff barrier was through payments which would give cotton processors a higher return on an allotted production goal.

"Such payments," he said, "ought to be made contingent on participation in the AAA conservation program. If a processing tax is considered favorably as a source of funds to finance a cotton program, the tax should be moderate in amount. Consumers should be protected against violation of the principle of fair exchange value. As under the old AAA the market price plus the tax should not cause the consumer to spend a greater percentage of his income for cotton than was the case in years before the war. *It should not be so high as to cause rayon and other competing products to be substituted for cotton on a large scale.*"

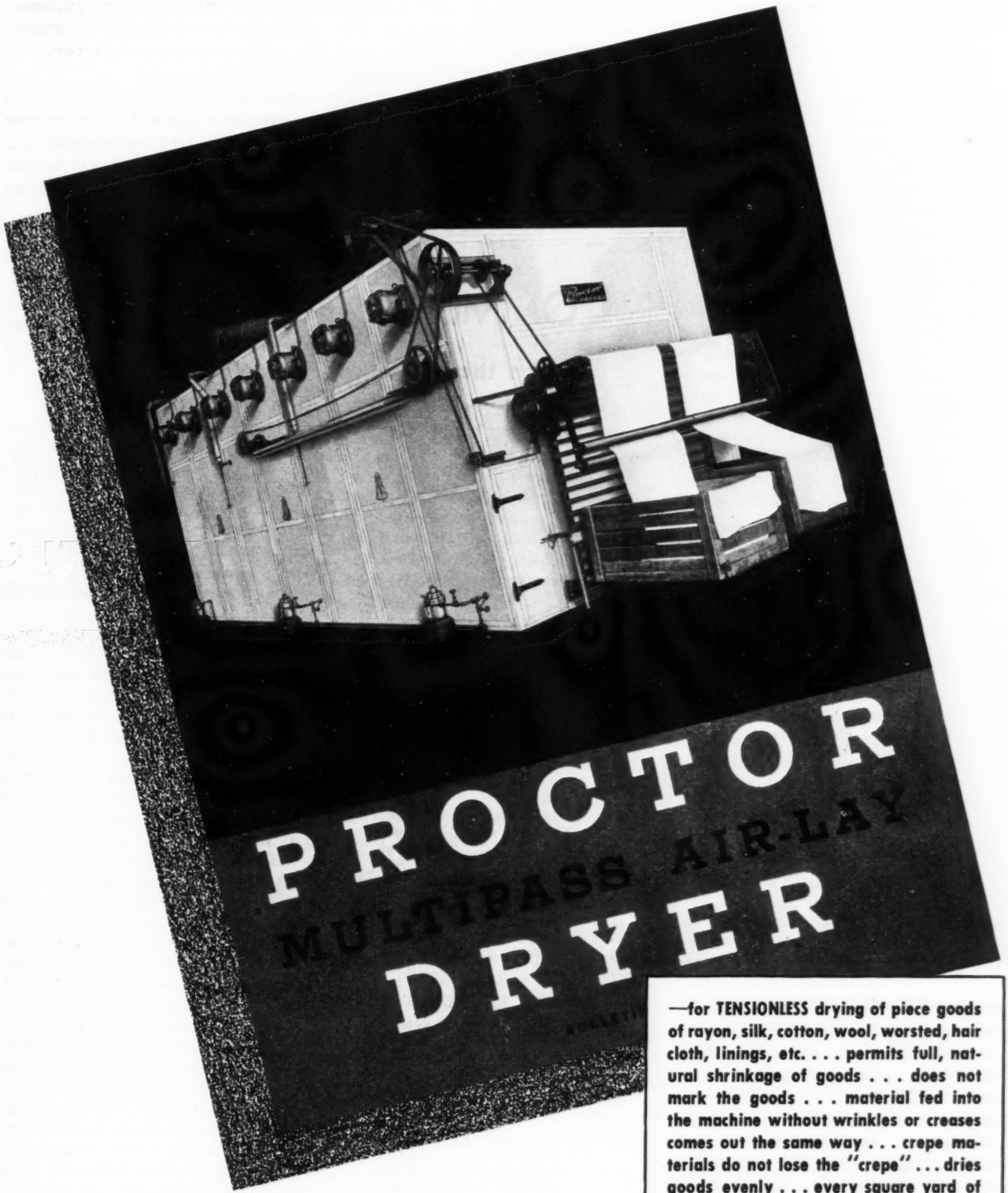
It is to be remembered that Secretary Wallace made similar statements and the Agricultural Adjustment Act itself provided for such contingencies regarding competitive fibers when we had the processing tax during NRA days but regardless of efforts of the textile mills nothing was ever accomplished toward lowering it. We should be prepared for such a thing as another processing tax, and we should have our guns loaded and ready to fire in strenuous efforts to keep it from being enacted in the government's crop subsidy program.

Co-incident with the announced fight on such a measure by the deep South comes the National Association of Cotton Manufacturers convention where it was found that their members were still firmly in favor of the 40-hour week and a uniform minimum pay rate.

Another interesting development we have seen is the appointment by The Cotton-Textile Institute Inc. of an industry tax committee. The committee comprises Robert West of Riverside & Dan River Cotton Mills; Bernard Cone, of Proximity Mfg. Co.; Amory Coolidge of Pepperell Mfg. Co; Russell Fisher, president of the National Association of Cotton Manufacturers; Fred W. Symmes of Union-Buffalo Mills; and A. A. Drake, of Bibb Mfg. Co. This committee will study the tax problems of the cotton textile industry with a view to procuring modifications in the present tax laws, and to work particularly for the modification of the undivided profits tax as well as a more equitable treatment of the allowance for depreciation and expenditures for repairs. The industry has long needed such a committee and the formation of an able one bespeaks good work on this line for the future.

TWOC marks passage of time with few more members than they had in their southern set-up some time ago. Steve Nance, Atlanta, Georgia, officer in charge of southern operations, is due the credit for the CIO having as many members as it now boasts in the South and we feel that he is not any too proud of the record as it stands today in comparative membership results with other industries over a similar period of organization-time. There is nothing quite so dampening to one's joining complex than a short dose of curtailed payrolls. Due to the market conditions the southern mills have had to practice curtailment in their normal operation schedules during the summer. Several closed for a week or two, some closed for longer, others closed for a day or so each week, dragging the shorter schedule out indefinitely. Despite the increases in payrolls which were granted to almost all southern mill employees last winter this enforced curtailment tied their purse strings a bit tighter. This *may* be the reason that the TWOC membership in the southern textile plants averages around 4 per cent of the total number employed.

Thinking over current events of the past 30 days we feel that the leadership of Claudius Murchison, president of The Cotton-Textile Institute, is more to be appreciated now than ever. He is aggressive when needed but understands the necessity of making us keep our feet on the ground, also. With the market falling each day he advised that there is no funda-



The new Bulletin 168, illustrated here, contains many facts that are of great interest to anyone who dries or contemplates drying piece goods without tension. Write.

—for TENSIONLESS drying of piece goods of rayon, silk, cotton, wool, worsted, hair cloth, linings, etc. . . . permits full, natural shrinkage of goods . . . does not mark the goods . . . material fed into the machine without wrinkles or creases comes out the same way . . . crepe materials do not lose the "crepe" . . . dries goods evenly . . . every square yard of each piece receives the same drying treatment, resulting in perfect uniformity of shrinkage, color and feel . . . produces a soft, mellow feel to goods, similar to that obtained on a decating machine . . . the PROCTOR Multipass Airlay Dryer also dries rapidly and is easily linked to processes that precede and follow drying.

PROCTOR & SCHWARTZ • INC • PHILADELPHIA

mental reason to be discouraged over the situation as it exists today. He pointed out that textile volume must be totalled over a period of a year not over a short month or two; that the mills are in fairly good position having kept their production well balanced on the 40-hour production program and in many cases the elimination of the third shift had been accomplished. By adjusting their output to current market needs, whether stagnant or free flowing, mills are never going to be caught in a jam so bad that it can't be regulated if we will just have patience. At the same time while we tread lightly, we should carry a big stick and be prepared for whatever evils the Congressional sack holds for us.

The slow sales resistance of the past few months is damming up a tremendous amount of consumer buying power, for the wholesalers warehouses are being gradually depleted. We can hold our horses now for brother—when that dam does bust through —Lawdy—what an overflow!

COMMENT on the Cotton Market

New Orleans, October 15, 1937.

THE TREND of cotton values continued downward during the past month, mainly in consequence of increasing American crop prospects, the recent weakness of the stock market, talk of the probability of larger foreign cotton crops, and because of the uneasiness as regards the foreign political situation.

As if the growing crop will not stop making, the indicated production increased from month to month, government returns, as of October 1, pointing to the highest yield per acre on record and a production of almost record breaking proportions.

As a result the government forecast was for a crop of 17,573,000 bales, compared with 16,098,000 indicated September 1 this year and last year's production of 12,399,000, an increase over last year of more than 5,000,000 bales.

The prospects of such an enormous American crop, exceeded only by the crop of 1926, which was 17,977,000 bales, and the possibility of larger foreign crops to contend with, weighed heavily on the market, so much that values sank to new low levels for the season and for several years past.

Realizing the seriousness of the cotton supply situation, a recent press report from Washington was to the effect that a drastic revision of the AAA's 1938 soil conservation program for the South was studied by agriculture department officials as potentialities of the predicted 17,573,000 bale cotton crop became apparent.

The unexpected large increase in prospects for the growing crop, 1½ million bales larger than indicated the previous month, sort of demoralized the trade temporarily, and there was less eagerness on the part of the trade to buy freely, resulting smaller daily spot sales in the South. But the demand is likely to pick up again. There have been signs of such a development lately, the result of a more confident feeling that the government will probably take care of the situation.

Since President Roosevelt called a special session of Congress for November 15, largely to adopt a legislative program to help agriculture and labor, which would increase purchasing power and help general business, sentiment has become somewhat more cheerful, which is reflected in the sharp recovery in values from the recent lows.

Not only is the U. S. crop very large, but foreign crops are expected to be of record breaking proportions also. According to the New York Cotton Exchange Service the trade is confronted with an indicated world cotton supply this season of about 50,350,000 bales versus last season's previous record of about 43,774,000 bales. Last season's world's consumption of all kinds was estimated at about 31,100,000 bales.

Congress, when it convenes in November, will likely work out a plan whereby the government may take care of the cotton problem in this country, as it is probable that a drastic cut will be made in the acreage next spring.

Meanwhile the trade continues to buy on scale down.

BRITISH BOARD OF TRADE REPORT FOR SEPTEMBER

Year—	1937	1936	1935
Exports of yarn, lbs.	12,000,000	12,000,000	10,000,000
Exports of cloth, yards	157,000,000	154,000,000	150,000,000

AMERICAN COTTON

August 1 to October 15— Bales—	This season	Last season
Brought into sight (marketed)	6,062,000	5,389,000
Exports from the U. S., incl. Canada	1,207,000	1,183,000
Spinners takings, world	2,316,000	2,707,000
Stock at all U. S. ports, October 15	2,987,000	2,353,000

WORLD'S VISIBLE SUPPLY OF COTTON

October 15— Bales—	This year	Last year
American	6,742,000	6,098,000
Other kinds	1,567,000	1,817,000
All kinds	8,309,000	7,915,000

INDICATED SEASON'S SUPPLY OF AMERICAN LINT COTTON

Bales—	This season	Last season
World's carry-over, Aug. 1 (Plauche)	5,740,000	6,732,000
Indicated crop, government forecast	17,573,000	12,399,000
Indicated world's supply	23,313,000	19,131,000

CENSUS REPORT

United States— Bales—	This season	Last season
Consumption of lint, September	602,000	630,000
Consumption of lint, 2 months	1,206,000	1,205,000
Mill stocks, September 30	991,000	848,000
Stocks in pub. stg. & whs., Sept. 30	6,926,000	6,652,000
Stocks in mills, pub. stg. & whs., Sept. 30	7,917,000	7,500,000
Active spindles during September	23,887,000	23,519,000
Consumption of lint in Cotton Growing States, September	517,000	526,000
In New England States	74,000	84,000
In All Other States	16,000	20,000
In the United States	602,000	630,000
Consumption of lint in Cotton Growing States, 2 months	1,017,000	1,007,000
In New England States	156,000	160,000
In All Other States	33,000	38,000
In the United States	1,206,000	1,205,000

from Your Dollars!

Capital dollars are your players on the business gridiron — so keep them free to concentrate on gaining ground. Certainly, you can't expect to achieve your profit goal when needed dollars are on the sidelines in your accounts receivable.

Through commercial factoring, you can keep all your dollars working as a team. Not only is the money in your receivables released for active service, but you put your business thereafter on a cash basis, while continuing to extend the usual terms to customers. Your bookkeeping costs are lowered, and you eliminate credit-checking and collection expense as well as credit losses.

We'll gladly tell you how commercial factoring can help you to increase profits

COMMERCIAL FACTORS CORPORATION

Fred'k Vietor & Achelis, Inc. Established 1828
Schefer, Schramm & Vogel Established 1838
Peierls, Buhler & Co., Inc. Established 1893

TWO PARK AVENUE, NEW YORK

WHAT THE SOUTHERN MILLS ARE DOING

GATE CITY COTTON MILLS, East Point, Ga., are replacing all of the present drawing frames with the new Saco-Lowell 4-roll drawing frames with the cushion top rolls. The picker room equipment is also beng converted to Saco-Lowell one-process type with blending reserves.

Best Manufacturing Company will begin construction of a silk yarn manufacturing plant in Gainesville, Ga., it is reported. The plant will be located at the edge of the city and will represent a cost of approximately $50,000. It will provide 20,000 square feet of floor space. Machinery to be installed is expected to cost approximately $100,000.

Edenton (N. C.) Cotton Mills are undergoing a modernization program which includes the changing of all spinning frames over to Whitin long draft.

Walker Mills, Inc., Gastonia, N. C., have been granted a charter to manufacture and deal in textile fabrics. The authorized capital is $100,000. Jerry W. Walker, John T. Houren, and M. E. Balthis, of Gastonia, are the incorporators.

Mooresville (N. C.) Cotton Mills have installed a new Sanforizing machine. The company has also purchased 35 new Monel wire-screen beams.

Rosemary Manufacturing Company, Roanoke Rapids, N. C., is constructing a new 3-story plant.

Gonzales (Tex.) Cotton Mills, which have been closed for more than 6 years, will re-open in the near future.

Riverside & Dan River Cotton Mills, Danville, Va., are building a 4,000,000-gallon-per-day gravity filtration plant.

Jefferson Mills, Inc., is the name of a company that plans to construct a buiding at Pulaski, Va., to house a silk throwing plant.

Piedmont (S. C.) Manufacturing Company's new filter plant is nearing completion, it is reported. The project will cost about $50,000.

Inman (S. C.) Mills have completed a modernization program which included the installation of 10,000 Saco-Lowell long draft spindles equipped with S K F bearings. All of these frames have General Electric individual motors and V-belt drives.

It is reported that a silk throwing plant will soon be in operation at Union, Miss.

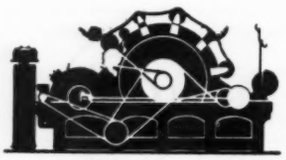
Wade Manufacturing Company, Wadesboro, N. C., has completed a program of improvement, including installation of new cleaners for the picker and napper departments. A new dyeing unit of the Gaston County Dyeing Machine Company, Stanley, N. C., has also been installed.

Sanford (N. C.) Cotton Mills have installed a new 4-blade automatic shear, made by Curtis & Marble Machine Company.

More than 100 employees in the Spray, N. C,. community have registered for courses in a vocational textile school, which has been recently turned over to the Leaksville, N. C., township school system by the manufacturing division of Marshall Field & Company. The school will be operated as a department of the Leaksville High School and will serve the three textile communities of Leaksville, Spray, and Draper, N. C.

The school opened September 27, offering a one-year course in yarn preparation and a one-year course in weaving and designing. Of the 91 mill employees registering for courses, 31 of them signed up for yarn preparation and 60 for weaving and designing. From the high school 15 junior grade boys and 14 seniors enrolled for the courses, 12 of the 29 taking yarn preparation and 17 studying weaving and designing. The high school boys take their regular required academic subjects at the high school building each morning, coming to the textile school for instruction during the afternoons.

John T. Lathem, a graduate in textile engineering of the Alabama Polytechnic Institute, Auburn, Ala., is acting as full-time head of the school and will also serve as instructor. Mr. Lathem has been with the Marshall Field & Company mills for over two years. W. J. Squires, Draper, N. C., is acting as part-time general assistant and instructor in the school. L. G. Moss and R. M. Barham, both of Leaksville, N. C., are serving as part-time instructors.



Commerce (Ga.) Manufacturing Company is constructing a new 3-story building upon which work is going forward rapidly.

Dunean Mills, Greenville, S. C., has completed a new cotton warehouse costing $8,000.

Orr Cotton Mills, Anderson, S. C., are undergoing a modernization program, including the installation of 22,000 spindles of Whitin long draft. J. E. Sirrine & Company, Greenville, S. C., are the engineers.

Royal Manufacturing Company, Charlotte, N. C., has leased new headquarters in the Cutter Building, located at 330½ North Tryon Street, having 4,000 square feet of floor space.

Matthews Cotton Mill, Greenwood, S. C., has practically completed its addition. New operatives' houses have also been built.

Icard (N. C.) Cordage Manufacturing Company is constructing an addition to the mill building.

Golden Belt Manufacturing Company, Durham, N. C., has asked for bids on the construction of a new office building, to be large enough to accommodate 25 or 30 persons.

Hermitage Manufacturing Company, Nashville, Tenn., successor to the Washington Manufacturing Company, has begun operations.

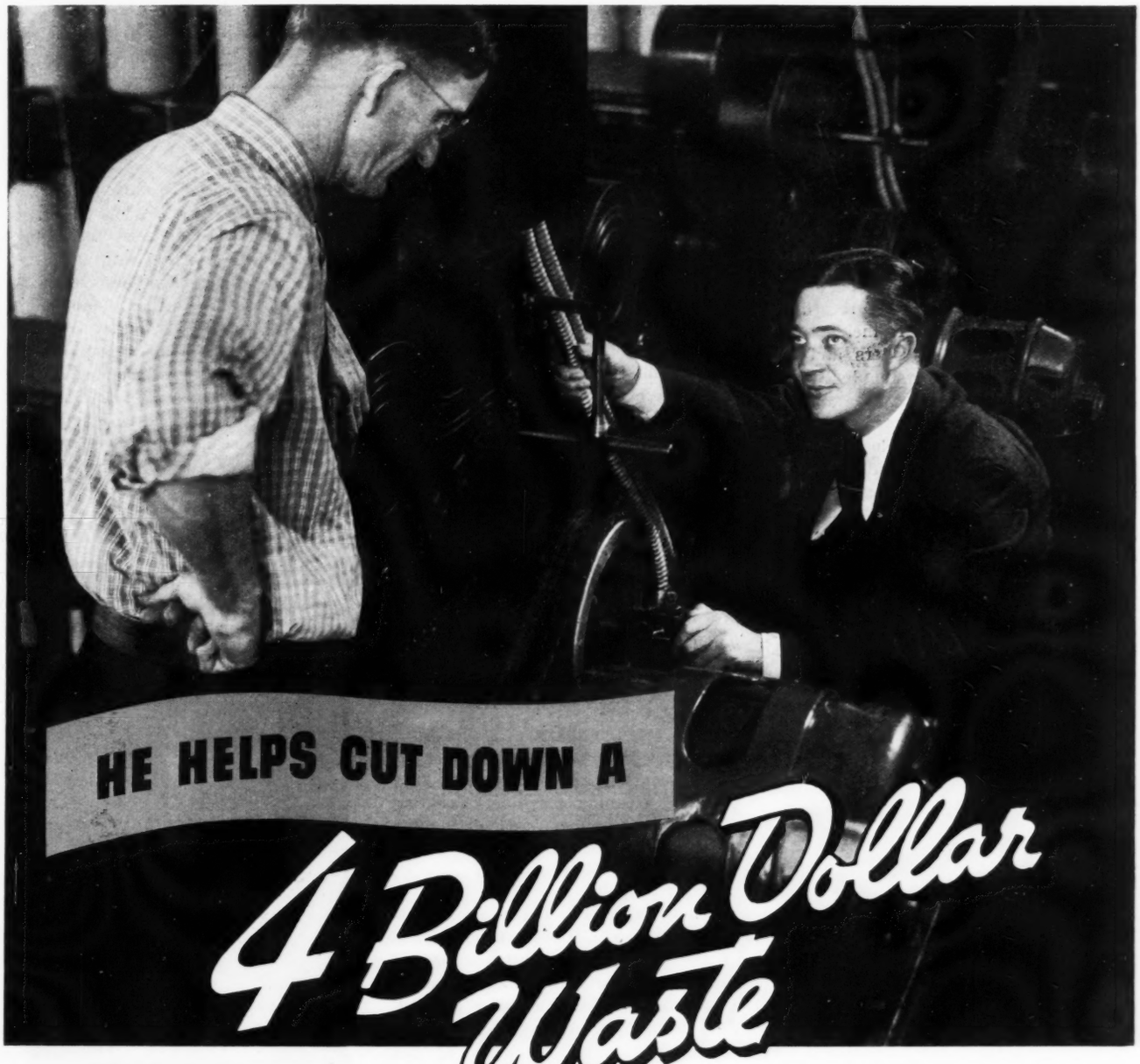
Mary Leila Cotton Mills, Greensboro, Ga., have equipped the automatic spoolers with the patented vacuum cleaning system manufactured by The Textile Shop, Spartanburg, S. C.

Nalven & Son, Clifton Forge, Va., will build an addition to their plant and install 55 more looms. The enlargement of the plant will bring the floor space to 25,000 square feet and the number of looms to more than 100.

Lola Mills, Inc., Stanley, N. C., has added new equipment and the mill is now in a position to dye yarn on standard ⅝-inch perforated tubes.

Machinery of Gault Hosiery Plant Sold

Morris Speizman, dealer in textile mill machinery and equipment, Charlotte, N. C., has purchased the machinery of the Gault Hosiery Manufacturing Company, Union, S. C.



When the end of 1937 rolls around and industry adds up the items of plant operating cost directly attributable to friction, an amazing total of *four billion dollars* will appear at the foot of the column! A staggering loss to American industry in a single year.

What is being done to reduce it? A relentless battle is being waged against the wastes of friction every day by Gulf's large staff of trained lubrication engineers. These men, real lubrication specialists, work with plant operating men to make machines produce on a more efficient basis.

In their broad experience they have found literally dozens of ways to save money by better selection of lubricants and better application methods.

Plant managers who take advantage of this cooperative service, available from Maine to Texas, save money—in reduced costs for power and for maintenance, and in improved production from each machine in the plant.

Let a Gulf engineer recommend—from Gulf's complete line of 553 oils and greases—the lubricants which will help *you* reduce the wastes of friction in *your* plant.

GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation ★ Gulf Refining Company

GENERAL OFFICES: GULF BUILDING, PITTSBURGH, PA.

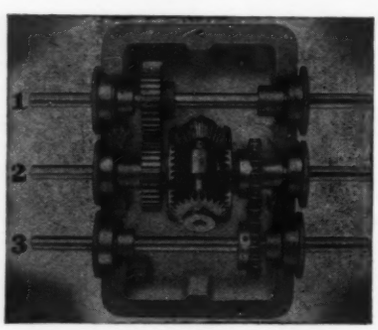
NEW TEXTILE EQUIPMENT—PUBLICATIONS

New Pyrometer Catalog

The Brown Instrument Company, a division of the Minneapolis-Honeywell Regulator Company, Philadelphia, Pa., has made available a new catalog on pyrometers of the potentiometer type. This catalog, No. 1102, covers the complete line of this type of pyrometer of the indicating, recording, and controlling type. It includes the new Electro-Line controllers and the proportioning control system by Brown. Potentiometer recorders are supplied with three types of records, continuous ink records, colored dot-circle records, and colored numeral records—these are illustrated by chart sections, reproduced actual size. The catalog contains 48 pages and is well illustrated.

Differential Control by Reeves

Reeves Pulley Company, Columbus, Ind., has supplemented its line of accessory equipment for use with the company's variable speed transmission



Differential Control

by developing a new differential. This unit is known as Model MDB-3 and is similar in principle to the differential used in a motor car. It is used for a variety of requirements in automatic speed control, such as synchronization of two or more machines or parts of a single machine, and maintenance of uniform peripheral winding or unwinding speeds. Within a unit housing are mounted three parallel shafts operating in a bath of oil. Gears of one-to-one ratio drive between shaft 1 (see illustration) and the differential gearing. Between shaft 3 and the differential, gearing is one-to-one chain drive. Special ratios are also available. For automatic control service, shafts 1 and 3 are connected to the driven machine or machines. Shaft 2 is connected to the speed changing screw of the transmission. When shafts 1 and 3 are driven in the same direction at the same speed, shaft 2 stands still. When the speed of the driven machine varies above or below desired speed, this variation is transmitted to shaft 2 which speeds up or slows down the transmission until synchronous speed is restored. It may also be used as primary driving equipment for loads not exceeding its rated torque and speed capacity. Infinite range of speed variation is possible by connecting shafts 1 and 3 to the constant and variable speed shafts, respectively, of the transmission. By turning the speed control handwheel on the transmission, shaft 2 may be adjusted to any speed in either direction, including zero r.p.m.

Silicates of Soda Bulletin

Philadelphia Quartz Company, Philadelphia, Pa., has issued a bulletin on the subject of silicates of soda in textile processes, which is said to be the first of its kind ever published. Other bulletins pertaining to the use of silicates of soda in industry in general are also available. An interesting chapter is written on the profitable ways to use the silicates in bleaching. Weighting of materials is also covered, as are scouring, kier boiling, back gray washing, cleaning machinery, coating kiers, water treatment, and sealing and other adhesive work.

"Phi Psi News"

A new paper, *Phi Psi News*, is now being published. It is the official organ of the Phi Psi fraternity, a professional order for textile men. Charles A. Moylan is both publisher and editor. The *News* was begun to render the active members of the fraternity every possible opportunity to launch a successful career in the textile industry. It is published monthly the office being at 305 Penfield Building, Philadelphia, Pa. Single copies sell for twenty-five cents, yearly subscriptions $2.00, and Canadian and foreign $3.00.

"How to Pack It"

The Hinde & Dauch Paper Company, Sandusky, O., has released an illustrated attractive booklet entitled *How to Pack It*, which describes 25 fundamental types of corrugated shipping boxes. This booklet is part of the company's sponsored plan to promote better packaging by making latest packaging developments available to users of shipping boxes. It notes the most important construction features of boxes designed to contain varying types of merchandise. Another booklet entitled *How to Pile* is also available, being No. 3 in the series.

Brochure on Localized Lighting

The Fostoria Pressed Steel Corporation, Fostoria, O., has made available a brochure entitled *Handbook of Localized Lighting* which gives 16 pages of illustrated installations for many industrial needs. It is said that the supporting arm used on these lights is constructed to provide maximum flexibility with sufficient rigidity to withstand the shocks and strains to which it may be subjected in modern industrial and commercial use. The wiring is enclosed in the supporting arm and is the oil resisting type. Specification tables are given for the various sizes and types.

Belt Dressing Applicator

Graton & Knight Company, Worcester, Mass., is offering free of charge to belting users a trigger-action belt dressing applicator that has been so designed, according to the company,

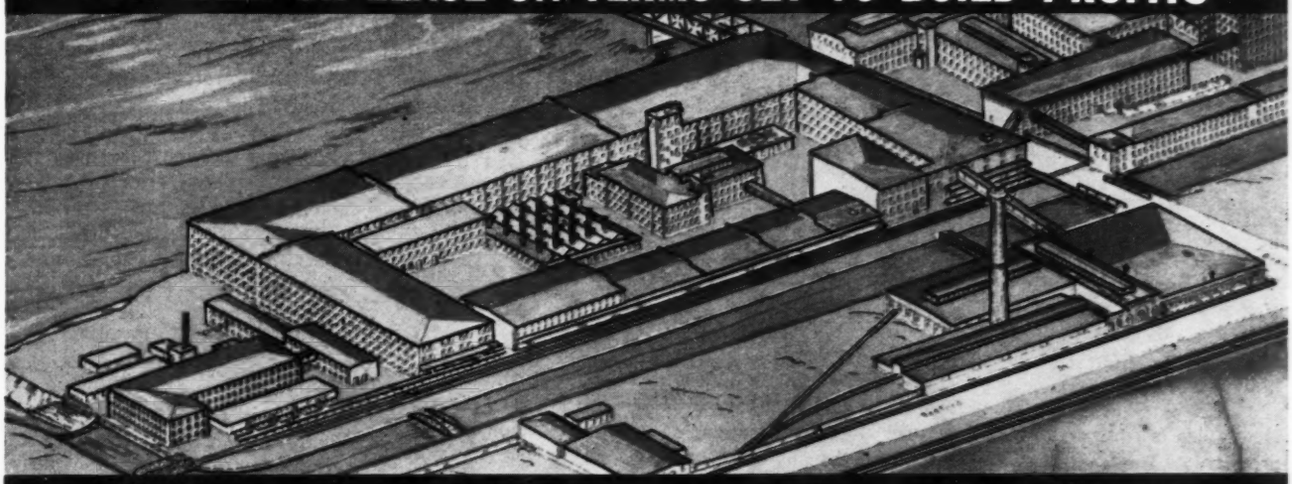
Trigger-Action Applicator

that two or three trigger squeezes apply enough dressing for the average belt. It can be used at some distance from moving units, making the dressing operation a safer one. Application is made evenly and in small quantities, helping to avoid wasteful "overdressing."

Vertical Centrifugal Pump

Fairbanks, Morse & Company, 900 S. Wabash, Chicago, Ill., have announced a new vertical, close-coupled motor-driven centrifugal pump for general service in deep or shallow wells. It was designed to meet the recognized need for a small-diameter, low-capacity, dependable pump with low initial operating costs. It is said to be ideal for economically pumping water under either high or low pressure at from 6 to 60 gallons per minute.

FOR SALE OR LEASE ON TERMS SET TO BUILD PROFITS



A Complete 200-Loom Worsted Plant

from Scouring to Finishing -- Either as a Single Unit or Sub-divided for Top, Spinning, Weaving or Finishing.

Only 55 miles from Boston, 248 from New York, Manchester, New Hampshire, is at the threshold of the nation's population center. Here then is a city in which you should locate. And, here is a location, already set up for manufacturing top, spinning, weaving, dyeing and finishing. Here is a building of over 500,000 square feet, with an adjacent steam plant for low cost power and heat! Subdivisions can be arranged as follows:

SCOURING, carding, combing units from 35,000 to 75,000 pounds weekly. Modern Sargent Wool washers; wide Platt, Davis & Furber Cards; French Combs; Intersecting Gills.

SPINNING UNITS—from 3,000 to 15,000 spindles, Motor driven Prince-Smith and Saco-Lowell frames; Prince-Smith drawing with ring rovers.

WEAVING UNITS—from 50 to 200 looms with 78"-82" Crompton & Knowles motor-driven Automatic looms and 72" motor-driven Draper looms with C & K heads.

FINISHING UNITS—will be arranged to suit purchaser.

If you are interested in a large or small unit, either for the entire worsted process; or interested in the manufacture of top, spinning, weaving, dyeing or finishing, investigate this opportunity now. Manchester offers plentiful, trained, skilled help—advantageous city and State taxes, and sympathetic officials—low cost electricity and gas—and accessibility to raw materials and markets.

AMOSKEAG INDUSTRIES INC.

FREE ENGINEERING SERVICE:

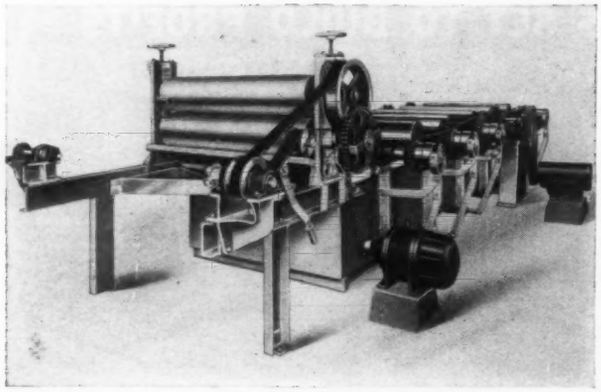
Skilled engineering service is freely given to all purchasers and tenants of Amoskeag property. Prospective tenants are offered expert technical consultation without obligation.

Write for Your Copy of— "YOUR SHARE of the FIVE MILLION" A complete exposition of all manufacturing property owned by Amoskeag Industries, Inc.

FOR DETAILED INFORMATION, SPECIFICATIONS, PRICES—ADDRESS

MANCHESTER AMOSKEAG COORDINATING COMMITTEE

MANCHESTER NEW HAMPSHIRE



Progressive dye jig for open width boiling off, bleaching, or dyeing . .

New Progressive Jig

Riggs & Lombard, Inc., Lowell, Mass., are manufacturing a new progressive jig for open width boiling off, bleaching, or dyeing. It has been designed for handling such materials as heavy cotton fabrics, gabardines, heavy drills, twills, ducks, etc., which should not be roped-up in a kier where they might be permanently creased. The goods enter the machine in the original dry state, the average batch being about 1000 yards, where they are rolled progressively onto a series of 6 cylinders; when a cylinder is completely loaded it is about 40 inches in diameter and the lower half of it rotates in the bath at all times. The cylinders are motor driven through sprockets, chains and clutches, and the squeeze rolls are provided with a seprate motor. The kier is made of boiler steel when used for caustic, and of stainless steel when used for bleaching or dyeing.

Tree Wire Brochure

Anaconda Wire & Cable Company, 25 Broadway, New York City, has released a lively publication entitled *Duracord Tree Wire*, which shows the uses of this wire. Valuable tables are given for reference. Three grades of this wire are offered, one for the minimum purchaser, another for the man who prefers to take the middle quality and feels that he is getting full value, and one for the superbuyer who places a premium on his company service and customer goodwill.

Proctor & Schwartz Folder

Proctor & Schwartz, Inc., Philadelphia, Pa., have published a folder illustrating and describing their Multipass Air-Lay dryer. According to the company, this unique machine offers many important advantages such as permitting full, natural shrinkage of goods in both length and width; the machine does not mark the goods; if material is fed into the machine without wrinkles, it will come out of the machine in the same manner; crepe materials do not lose the crepe appearance; and it dries rapidly and is easily linked to processes that precede and follow drying. The conveyor of the machine is made up of parallel runs of fine steel roller chain, which are connected by a series of pressed metal supporting girts with cork inserts on which the material to be dried is carried.

New Line of Stainless Steel Dye Kettles

Birch Brothers, Inc., 32 Kent St., Somerville, Mass., have announced their line of stainless steel dye kettles, for either rope or even width dyeing. The bus is entirely independent of the side frames; the bearings, doffing reel arms, and motor drive brackets are all supported by the heavy machined side frames, putting no strain on the tub, it is said. The reels are of unique design made to prevent slippage of the cloth and with the end heads or flanges having a long bearin gon the shaft and keyed to it. he reel is made so that it may readily be made elliptical or round, or any number of rails may be used.

Two Additional Texts in Foundation Series Ready

The third and fourth volumes in the series of textile text books on cotton yarn manufacturing, being prepared by H. H. Willis and others under the direction of the Textile Foundation, have been issued. The first two, covering Cotton Carding and Cotton Opening, Cleaning and Picking, respectively, had been issued previously. The third and fourth cover Roving Frames and Drawing Frames, respectively.

The books on Roving Frames, prepared by Mr. Willis, Robert K. Eaton, and Vernette B. Moore, is, like the remainder of the series, prepared in multilith form. It contains 104 pages, with ample illustrations, and the price is $1.50 per copy. The one on Drawing, prepared by Mr. Willis and Miss Moore, contains 52 pages, and is well illustrated, and the price is 50 cents per copy plus postage.

As was explained in a note concerning the previous texts on page 142 of October COTTON, this series of texts is designed as a thorough course of instruction, but will find value in regular mill work as references. Each operation involved is fully described and discussed. Each volume contains latest developments in each case, including condensations of current articles from trade journals and technical information and descriptions furnished by the several machinery shops and other authorities.

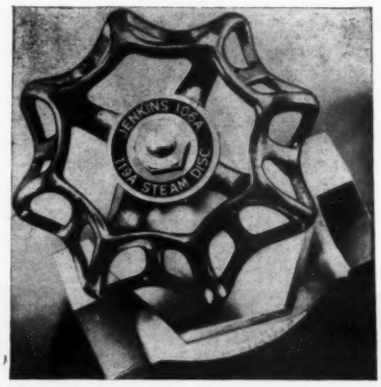
Copies of each of the texts thus far issued may be obtained through COTTON'S book department or from H. H. Willis, Clemson, S. C.

Flexrock Literature

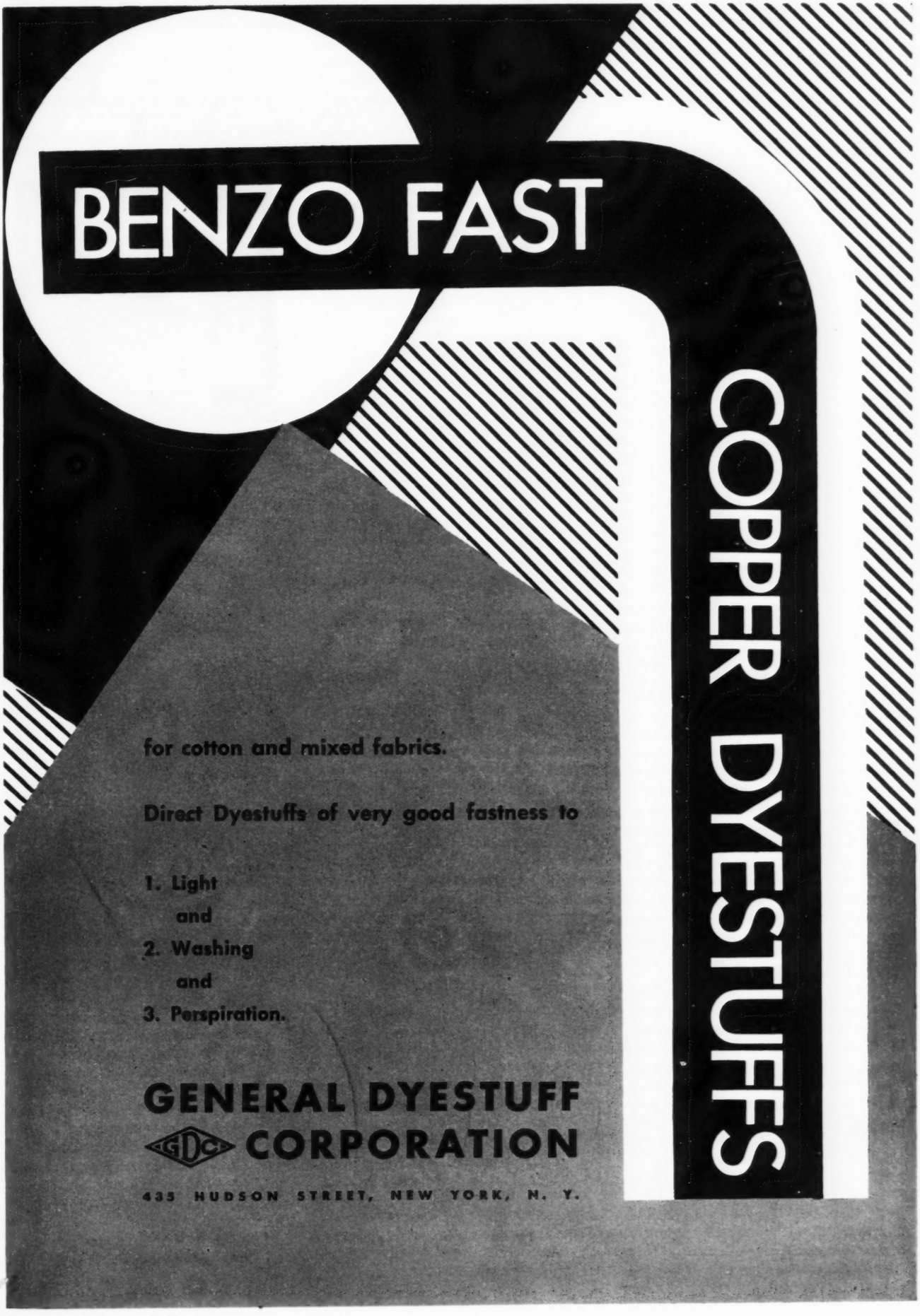
Flexrock Company, 800 N. Delaware Ave., Philadelphia, Pa., has published two leaflets descriptive of Flintcrust, a material for filling the voids or pores in the surface of concrete, and Ruggedwear Resurfacer, a material for repairing floors of cement.

New Designs Incorporated in Jenkins Valves

Jenkins Brothers, 80 White St., New York City, makers of valves, have added three new developments which add convenience and better service to the valves. A new handwheel design affords unusually large gripping area without bulkiness, and because of its deeply depressed center, it will prevent the hand from touching a hot wheel nut. A new valve index plate, held in the depressed center of the wheel by the wheel nut, gives the figure numbers of the valve, the disc number, and service to aid in ordering replacements. A new renewable composition disc is also offered. The new plug-seat valve that features a plug and seat ring made of superior stainless steel has been announced. It is said to be especially recommended for severe service such as continuous throttling or pressure reduction or for free blow duty such as soot blowers, injectors, heating coils, etc., where regulation is required.



Valve Handwheel


BENZO FAST
COPPER DYESTUFFS
for cotton and mixed fabrics.
Direct Dyestuffs of very good fastness to
1. Light
and
2. Washing
and
3. Perspiration.
GENERAL DYESTUFF
GDC CORPORATION
435 HUDSON STREET, NEW YORK, N. Y.

Polarizer and Analyzer

Laboratory Equipment Company, 148 LaFayette St., New York City, has designed a device that is said to be an extra eye for technicians. It is the Marks Polarizer and Analyzer. It is said to enable one to detect instantly defects and irregularities in transparent materials such as glass, rubber, plastics, etc. It facilitates the identification and grading of plant fibers, textiles, leather, lubricating greases, etc. The device slips nto place on any microscope and is ready for instant use.

New Spray Equipment Catalog

Binks Manufacturing Company, 3114 Carroll Ave., Chicago, Ill., has announced publication of a new complete 61-page catalog covering its whole line of spray painting and finishing equipments, some of which are spray guns, pressure painting outfits, spray booths, air compressors, pressure material tanks, hose and connections, exhaust fans, etc.

New Chemical, "Tergitol" Makes Water Wetter

The old comparison "like water off a duck's back," will no longer be appropriate if minute traces of a newly developed chemical are added to water, it was announced by Dr. B. G. Wilkes of the Mellon Institute, Pittsburgh, and Dr. J. N. Wichert of Carbide and Carbon Chemicals Corporation, South Charleston, West Virginia, at the recent Rochester meeting of the Amerıcal Chemical Society. As a result of investigations in the field of synthetic organic chemistry, hitherto unobtainable alcohols of high molecular weight have been made available in quantity sufficiently great to establish them as commercially valuable products. These alcohols, as a series, range in carbon content from ten to twenty-one carbon atoms per molecule and are therefore comparable in molecular size to those alcohols which are now derived chemically from such naturally occurring raw materials as vegetable and animal fats and waxes.

Because of their giant molecular size, these synthetic alcohols are not soluble in water. They can, however, by the process known as sulfonation, be converted into products which are readily dissolved in water and which impart to such aqueous solutions very pronounced properties of detergency, emulsifying action, penetration and wetting-out of large surface areas. A tenth of an ounce added to a gallon of water makes the water actually "wetter," that is, the water penetrates whatever it touches almost instantly. These compounds have recently been made available to industry under the trade-mark "Tergitol."

Further investigation of the properties possessed by "Tergitol" wetting agents, it is pointed out, shows them to be effective and stable under most commercial concentrations of alkaline, acid, oxidizing, and hard water conditions so frequently met with in textile processes. Even in peroxide and hypochlorite bleaching and as well as in mercerizing baths their efficiency is retained undiminished for many days, the manufacturer points out. They are well suited for impregnation of textile materials where it is desired to impart future absorbency and they have been found to serve as emulsifying agents. The "Tergitol" penetrants also aid in the dispersion of lime soaps, thereby reducing the tendency of soaps to form curds in hard water.

The effectiveness of the "Tergitol" penetrants in promoting wetting textile fibers is well illustrated by the fact that, while yarn or thread made from raw or chemically untreated cotton remains unwetted by water for an indefinitely long period of time, cotton in the same state becomes thoroughly wetted in a few seconds by water solutions containing as little as one-tenth of one per cent of these synthetic alcohol sulphates.

Multiple Projection Heater

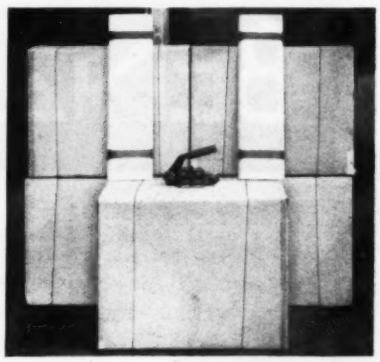
The Trane Company, LaCrosse, Wis., have announced the development of a new multiple projection unit heater, which, like the recently announced single fan projection heater, utilizes a new means for both diffusing the air stream and carrying it a considerable distance at the same time. In this ceiling mounted unit, warm upper air is drawn through the two coils and then projected straight downward in a vertical stream which reaches and stays on and near the floor, it is explained. As the air stream enlarges it induces a large amount of room air which both gives it volume and so reduces its velocity that it reaches the floor evenly and comfortably. The multiple projection heater, available with two, three or more fans, is designed for use where a maximum of space is to be heated with a minimum of units. It consists of two Trane extended surface coils within a metal casing; two motors are mounted out of the path of the air on a resilient construction; the new Trane four-blade propeller fan is used.

Folder on Textile Specialties

Textile specialties for silk and rayon mills, developed by the Armstrong Cork Products Company, Lancaster, Pa., are described in a new folder, which covers Armstrong's temple rolls or cork and synthetic rubber-like material, take-up roll coverings, cork and rubber compositions, cork and sponged Neoprene, throwster roll covers, cone covers and miscellaneous specialties.

Wire Strapping or Tying Machine

The Gerrard Company, Inc., 2915 W. 47th St., Chicago, Ill., has developed a new and rapid selective-tension wire



Wire Strapping Machine

strapping machine that is actuated by a single stroke of its operating lever; it is known as Model N. After the wire is inserted through the machine and draped around the box to be strapped, the long tension handle on the left of the machine is operated back and forth until the required tension is obtained. One complete stroke of the center operating handle of the machine follows. This twists the wire, forming the wire seal. At the same time the wire is cut and all parts are automatically returned to their original positions.

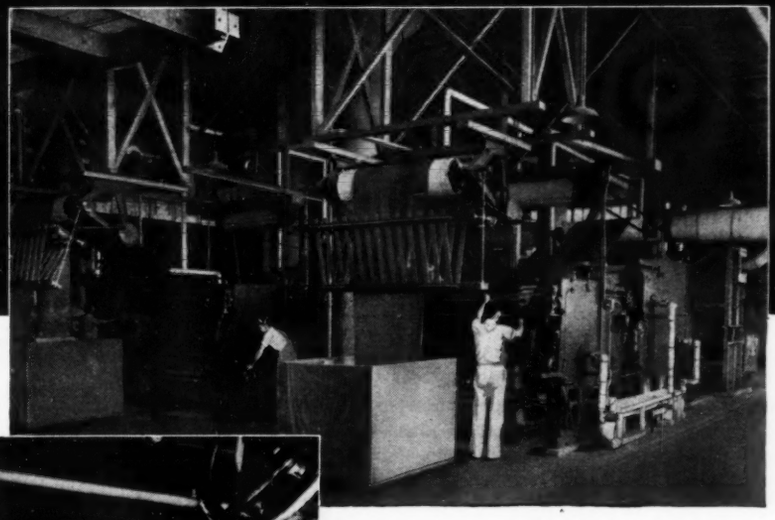
Duplex Power Pumps

Fairbanks, Morse & Company, 900 S. Wabash Ave., Chicago, Ill., have developed a new line of duplex power pumps, described in Bulletin No. 6130, for oil field service, fire protection, and for general service requiring pressures up to 800 pounds per square inch and capacities up to 187 gallons per minute.

Non-Breakable Floating Thermometer

Raytheon Manufacturing Company, mechanical division, 34 Willow St., Waltham, Mass., has announced the Thermosphere, a new all-metal, nonbreakable floating thermometer for measuring temperature of hot liquids. It is constructed in the form of a small metal ball with a temperature scale engraved on the outside. Inside is a bimetallic mechanism, which, being affected by the heat of the liquid, makes the Thermosphere revolve and causes successive numbers on the scale to appear above the surface. The standard Thermosphere is 1½ inches in diameter, chromium plated. The sfze may be varied considerably and the scale exextended from 50 to 600 degrees F.

Quality Finishes with NOPCO TALLOW SOFTENERS



EASY TO USE: *Nopco Tallow Softeners readily adapt themselves to your processing methods—enable you to maintain your finishing and production standards on an economical and consistently uniform basis.*

INCREASED PRODUCTION: *Recently installed special equipment at our Cedartown and Harrison plants facilitates our ability to render dependable, efficient service at all times.*

SOFT TO THE TOUCH: *Nopco Tallow Softeners produce a pleasing, soft, mellow hand within the full range of varying degrees of body and softness. Soften and reduce natural harshness to a pleasing texture and finish—help you meet Fashion's demands.*

Adaptable to any sizing formula

● Like the mark "Sterling" on fine silver, the name "NOPCO" is synonymous with Quality in the tallow softener field. Nopco Tallow Softeners are made in all standard types, including those of high concentration, and, when occasion demands, are made to fit individual requirements. Nopco Tallow Softeners are of much lighter color and high uniformity and are made to withstand the high temperature of calendaring and Sanforizing. For uniformity, dependability and maintenance of production standards, use Nopco Tallow Softeners. Please feel free to consult us without obligation... our services and facilities are at your disposal.

Send for our brochure containing data on the many types of Nopco Tallow Softeners now available.

NOPCO **NATIONAL OIL PRODUCTS CO., Cedartown, Ga.**

BOSTON • HARRISON, N. J. • CHICAGO • SAN FRANCISCO

News Items with a Textile Slant

Connell-Roper Represents Johnson Bronze in Texas

Johnson Bronze Company, New Castle, Pa., has announced that Connell-Roper, Inc., 2816 Commerce St., Dallas, Tex., is sales representative for the company. It is said that the Connell-Roper company is ideally organized to serve the Southwest territory trade and will soon offer a complete bronze bearing service.

Carter and Burnell Elected Vice-Presidents of Link-Belt

William C. Carter and Edward J. Burnell have been elected vice-presidents of Link-Belt Company 307 N. Michigan Ave., Chicago, Ill. Mr. Carter is a mechanical engineering graduate of the University of Illinois and has been with the company since 1902. Mr. Burnell is a mechanical engineer, having studied at Lehigh University. He joined Link-Belt in 1913.

Benz District Manager for U S

Frederick D. Benz, formerly manager of wire sales, Chicago branch, United States Rubber Products, Inc., 1790 Broadway, New York City, has been appointed district manager of wire sales, Pacific division, with headquarters in San Francisco, Cal.

Kron Company News

Herman L. Tygesson has joined the organization of The Kron Company, Bridgeport, Conn., manufacturers of dial scales. Mr. Tygesson will fill the position of general superintendent. Warner DeFoe has been transferred to the Bridgeport office in the capacity of purchasing agent. J. A. Hunt Company, 2036 Sansom St., Philadelphia, Pa., has been appointed district representative for The Kron Company.

Southeastern Section, AATCC Holds Fall Meeting at LaGrange

The fall meeting of the southeastern section of the American Association of Textile Chemists and Colorists was held at the Colonial Hotel, LaGrange, Ga., on Saturday evening, October 9, with an attendance of more than 70 members and guests. E. A. Feimster, Jr., chairman of the section, presided. After an entertainment program staged under the direction of M. T. Johnson, of Callaway Mills, the section heard R. H. Adams, chief tester, Callaway Mills, speak on "Physical Textile Testing"; and Perrin N. Collier, vice-president and staff manager, Callaway Mills, who made a tour of European textile laboratories last summer with a group sponsored by the National Research Council, spoke on research methods and activities in England, France and Germany. (An interview with Mr. Collier, detailing his observations on this tour, appeared on page 62 of the September issue of Cotton.)

Carrell Representative for Acme Steel in Georgia

C. A. Carrell has been appointed sales representative in the state of Georgia for the Acme Steel Company, Chicago, Ill., succeeding the late Hugh

Mr. Carrell

Duane. Mr. Carrell has been associated with the Acme Steel Company for 17 years and has a thorough knowledge of the requirements for the Southeast.

Truscon Puts Warehouse Stock in Charlotte

Truscon Laboratories, Detroit, Mich., who for the past 15 years have been serving the southern textile industry in connection with waterproofing and special coating and technical paint problems, have recently placed a stock of materials in their Charlotte, N. C., warehouse to take care of increased demand. Their products include integral waterproofings, interior mill paints, special wood paints, acid-resisting coatings, etc.

This organization maintains an office and warehouse at 128 Marietta St., N. W., Atlanta, Ga., under R. G. Bullard. The Charlotte office and warehouse are in charge of Geo. H. Woolley, Jr., with offices in the Johnston Bldg.

Clemson Adds Three Textile Teachers

Three new teachers have been added to the staff of the textile school at Clemson College, S. C., where the enrollment this year is approximately one-third greater than last year. The new teachers are T. A. Campbell, who has had 10 years experience in textiles, 7 of which were in cost work with Ralph E. Loper Company; W. L. Hicks, who has had about 6 years practical experience in bleaching and dyeing and in general textile work; and J. V. Walters, who has had 4 years practical experience. The school now has a staff of 14 teachers handling textile subjects only.

Stover is Atlanta Manager for Corn Products Sales Co.

Charles G. Stover is manager of the Atlanta (Ga.) office of the textile starch division of Corn Products Sales Company, a position he has held for several years. The appearance of another name in this position in the company's front cover advertisement in October Cotton was entirely through error.

PUBLISHER'S STATEMENT

of the ownership, management, circulation, etc., required by the act of Congress of March 3, 1933, of COTTON, published monthly at Dalton, Ga., for October 1st, 1937.

State of Georgia, County of Fulton.

Before me, a Notary Public in and for the State and County aforesaid, personally appeared Richard P. Smith who, having been duly sworn according to law, deposes and says that he is the Business Manager of COTTON, and that the following is to the best of his knowledge and belief, a true statement for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the act of March 3, 1933, embodied in Section 411 Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Editor, R. W. Philip, Atlanta, Ga.; Business Manager, Richard P. Smith, Atlanta, Ga.

2. That the owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; W. R. C. Smith, Atlanta, Ga.; W. J. Rooke, Atlanta, Ga.; W. S. Cushion, Cleveland, Ohio; O. A. Sharpless, Atlanta, Ga.; J. C. Martin, Atlanta, Ga.; T. W. McAllister, Atlanta, Ga.; E. W. O'Brien, Atlanta, Ga.; J. C. Cook, Atlanta, Ga.

3. That the known bondholders, mortgagees and other security holders, owning or holding 1 per cent or more of total amount of bonds, mortgages, or any other security holders are: None.

4. That the two paragraphs next above giving the names of the owners, stockholders and security holders if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholders or security holders appear upon the books of the company as trustees or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stock holders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bonafide owner and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

Richard P. Smith, Bus. Mgr.

Sworn to and subscribed before me this 14th day of September, 1937.

E. L. PHILPOT, Notary Public.

My commission expires March 7, 1939.

Look Out for That "MONKEY-WRENCH!"

Often textile processes go wrong for reasons that seem obscure, but when discovered are really simple. Many times the "monkey-wrench in the machinery" turns out to be *water*. Hard water, dirty water or water of bad color can hinder economical production. In hundreds of mills, water conditioning has proven that it simultaneously lowers production costs and improves quality.

Permutit Water Conditioning Equipment will produce uniformly clean, soft water regardless of day-to-day variations in the hardness or turbidity of the water supply. Permutit Equipment is used by many of the largest mills in all branches of the industry, operating under a wide range of conditions.

Applications of Permutit Equipment for the treatment of hard, turbid or iron-bearing water, or water of bad color, in the manufacture of wool, cotton, silk and rayon yarns and fabrics are covered in Permutit Bulletins especially prepared for textile technical men. Write for copies. Also ask for data on savings effected by Permutit Equipment in the steam plant. Please address inquiries to The Permutit Company, Dept. B1, 330 West 42nd Street, New York, N. Y.

PERMUTIT PRODUCTS FOR TEXTILE INDUSTRY

Zeolites
1. Zeo-Dur 2. Super Zeo-Dur 3. Decalso

Automatic Zeolite Softeners

Filters, Automatic, Single Valve; Pressure or Gravity
Siliceous Non-Siliceous
Iron and Manganese Removing
Oil Removing

Aerators and Deaerators

Chemical and Coagulant Feeds and Controllers
Proportionating
Continuous
Wet or Dry

Boiler Feedwater Conditioning Equipment

Boiler Blowoff Equipment

Permutit
Water Conditioning

Demand for Portable Testing Laboratories

According to the United States Testing Company, Inc., 1415 Park Ave., Hoboken, N. J., the special portable retail store testing laboratories designed by this company are now being sought by processors and manufacturers. These laboratories are installed completely equipped, staffed by a trained technician and supervised by the main laboratories of the company on a weekly fee basis. This may be the solution to the fabric and garment manufacturers' problem of obtaining factual information on fiber identification and consumer serviceability for passing along to the consumer. The Neva-Wet laboratory of the company is open to the public daily, and manufacturers and retailers are invited to inspect the special laboratory first hand.

Cent-A-Bale Program Under Way

According to The Cotton-Textile Institute, 320 Broadway, New York City, the cent-a-bale co-operative cotton promotional program which, as a joint project of cotton spinners and merchant-shipper firms, is now well under way on a half-dozen major fronts under the guidance of the Institute. The industry-wide recognition of the necessity and opportunity to increase cotton consumption in the United States is evidenced in the increasing interest in the program since the official crop estimate. More than 300 cotton mills, nearly 150 representative cotton shippers, and even cotton futures brokers, warehouse and compress companies, and mill selling agents, are now subscribing to the promotional fund on the cent-a-bale or other appropriate basis.

Another example of a new use for cotton has been demonstrated in Northport, N. Y., where the outside wall and roof surfaces of conventional frame dwellings have been built with cotton duck.

Textile Patents Issued

According to Paul B. Eaton, patent attorney, Charlotte, N. C., William H. Bahan, Greenville, S. C., has been awarded three patents on shuttle boxes for looms in which the lining is movable and has one end mounted on an eccentric in the sidewall of the binder and the other end secured to a member movable by the picker stick so that the incoming shuttle causes the eccentric to pinch the shuttle and stop it, thus eliminating the necessity for a picker stick check. The patents also cover an adjustable member on the frog for allowing the shuttle to be expelled from a loose box. A. J. Tant, Central, S. C., has been awarded a patent on placing two rods in the warp after it leaves the size box on a slasher to split the warp, thus allowing it to dry partially before it reaches the cylinders. Other patents include those issued to George and John Glenn, Gastonia, N. C., for yarn printing cone means; and O. C. Hinson, Cramerton, N. C., for bunch winder attachment for builder mechanism.

G. T. Allison Joins Father's Firm; Recent Fence Installations

Graham T. Allison, a graduate in textiles at N. C. State College, has become associated with the Allison Fence Company, Charlotte, N. C., of which his father is manager. The younger Mr. Allison, who has been connected with Geigy Company, joined his father's concern on October 1, and will be in charge of the engineering department of the firm, as well as traveling North and South Carolina.

G. T. Allison

Allison Fence Company, which is a member of the Page Fence Association, has recently completed the erection of 2,000 feet of chain link fence for Mock-Judson-Voehringer Company, Greensboro, N. C. They have also just completed the installation of fences for the Burlington Mills around their plant, Gloria Rayon Mills, at Johnson City, Tenn.

American Viscose Corporation Opens New Plant for Production of Fibro

American Viscose Corporation, the world's largest producer of rayon, has announced the completion of the first plant ever to be constructed in the United States for the exclusive production of rayon staple fiber. The plant, which is located at Nitro, W. Va., is of the most modern construction and is entirely separate from the company's rayon pulp plant located in the same community. All machinery in this new Nitro plant has been especially built and is different from the type of machinery required for the production of filament rayon yarn. Rayon staple fiber is in no sense of the word a by-product of the rayon industry, but is a new development different from filament rayon.

The annual capacity of the new plant is given as 20,000,000 pounds. This will give American Viscose Corporation—with its production at Parkersburg, W. Va., of 5,000,000 pounds of staple fiber annually—a total annual capacity of 25,000,000 pounds of Fibro or rayon staple fiber. The new plant gives the American Viscose Corporation complete facilities for the production of all sizes, lengths, lusters and types of Fibro, which go into crown spun rayon as developed with cotton, wool, worsted, silk and linen spinning systems.

This new plant at Nitro is the culmination of the company's experiments conducted at Parkersburg in the production of Fibro and also of the experiments and experience of Courtaulds, Ltd., who have been producing rayon staple fiber since 1918. The Nitro plant has adequate facilities for the research and experiments necessary for the development of new types of rayon staple fiber, the use of which is increasingly broader in its scope.

Costello with Warwick

Anthony F. Costello has joined the technical staff of Warwick Chemical Company, West Warwick, R. I. Mr. Costello has had many years of experience as a chemist in leading woolen and knitting mills. For the past 10 years he has been connected with the Lumb Knitting Company, Pawtucket, R. I.

Additional Obituary Items

LEWIS T. TAUBEL who has operated hosiery mills in Norristown, Pa., and Riverside, N. J., for the past 35 years, passed away in St. Petersburg, Fla.

ROY R. CARTER, 56, formerly secretary of the Aycock Hosiery Company, South Pittsburg, Tenn., passed away the middle of September.

JOHN H. FOLEY, for 20 years an overseer at the Chicopee (Mass.) Manufacturing Corporation, passed away the middle of September following a brief illness.

ROBERT TYRE JONES, SR., 87, president and founder of the Canton (Ga.) Cotton Mills, passed away September 23 after an extended illness.

W. J. CLIFFORD, for 53 continuous years with the Piedmont (S. C.) Manufacturing Company, much of that time as overseer of weaving, passed away suddenly at his home in Piedmont early in October. He was the oldest resident in point of service in the mill community.

JOHN F. SCOTT, formerly superintendent of a number of southern mills, passed away at Reidsville, N. C., October 4.

Exclusive preview OF THE NEW

AMAZING NEW UNIT REVOLUTIONIZES HANDLING OF LIQUIDS

Never before have plant owners and operators been offered such a remarkable unit for automatically transporting condensate and other liquids quickly, conveniently, dependably—with matchless savings. A product of sound engineering—backed by more than forty years' experience—the MOREHEAD LIQUIVATOR provides the safest, thriftiest solution for liquid handling problems. Simple design and rugged construction mean life-time performance, trouble-free operation. No other unit offers such a sensational combination of new, exclusive features!

Morehead Liquivators, consisting of a stationary pressure tank and an operating valve mechanism, are available in both metering and non-metering types. They can be had in a self-contained or Remote Control assembly to meet individual requirements. Metering units set a new standard for accuracy within 2% plus or minus. Whether or not you're in the market at the moment, you'll certainly want to know all about this history-making Morehead Liquivator. Be sure to mail the coupon TODAY for details.

MOREHEAD
MANUFACTURING COMPANY
DETROIT, MICHIGAN

MOREHEAD MANUFACTURING CO.,
Dept. C, Detroit, Michigan

Without obligation, I'd like the details of the new Morehead Liquivator.

☐ Send me literature on it.
☐ Have your representative call.

Name_____

Address_____

City_____ State_____

PERSONAL NOTES
about Men You Know

B. B. COMER, JR., has been elected president of the Avondale Mills of Alabama, succeeding his brother, DONALD COMER, who becomes chairman of the board. BRAGG COMER, the new president, has been vice-president.

L. COMER JENNINGS, who has been vice-president of the Cowikee Mills, Inc., Eufaula, Ala., has been made president of these mills, succeeding DONALD COMER, who will now serve as chairman of the board of directors.

H. C. SKELTON has been transferred from the cost department of the Springs Cotton Mills, Chester, S. C., to overseer of carding and spinning at the Gayle Plant, Springs Cotton Mills, also located in Chester, S. C. He is succeeded in the cost department by K. M. LOWRY.

E. H. DREHER, Winnsboro, S. C., has become overseer of carding at the Sanford (N. C.) Cotton Mills of which D. G. FLOYD is superintendent.

J. A. SCROGGINS has been made overseer of weaving, Alabama Mills, Inc., Wetumpka, Ala. W. W. JONES, formerly of the plant located in Wetumpka, has been made master mechanic at the company's plant in Winfield, Ala.

JAMES MCNEICE, who formerly was boss finisher at the Blackstone Plush Mills, Clinton, Mass., has joined the finishing staff of Sidney Blumenthal & Company, Inc., Shelton, Conn.

R. Y. MCLEMORE has been made superintendent of the Carolina Textile Corporation, Dillon, S. C.

WILLIAM F. STAPLES, for several years treasurer and manager of the Ponemah Mills, Taftville, Conn., has been made general manager of the Cabot Manufacturing Company, Brunswick, Me., succeeding WILLIAM WORSNOP, who resigned some time ago because of ill health. NATHANIEL AYER, treasure of the company, who has been in charge of the plant since Mr. Worsnop's resignation, will turn over the manufacturing details of the company to Mr. Staples, but continue to be treasurer.

CLARENCE E. WYLIE, for the past four years assistant purchasing agent for the Springs Cotton Mills, Lancaster, S. C., has accepted the position of purchasing agent for the Greenwood (S. C.) Cotton Mills. Mr. Wylie is succeeded at Lancaster by K. C. ETTERS.

GEORGE R. GRICE, formerly superintendent of the Excell Manufacturing Company, Inc., Lincolnton, N. C., has been made superintendent of the Lola Mills, Inc., Stanley, N. C.

WILLIAM STEWART, treasurer of Southeastern Cottons, Inc., has been elected executive vice-president of this organization also.

HAROLD T. SEARS, for many years associated with the Kendall Mills, has joined the print cloth division of Southeastern Cottons, Inc., Mr. Sears has handled purchases for the Kendall company.

ALBERT H. CROSSMAN, vice-president of the Utica & Mohawk Cotton Mills, Inc., Utica, N. Y., has been made president of the company, succeeding JOHN A. MCGREGOR, who passed away in September.

CLARENCE O. SMITH, who, it was reported in the September issue of COTTON, was in the spinning department of Opelika (Ala.) Mills, is night overseer of carding and spinning at this plant.

On page 98 of September COTTON it was stated that C. W. YOUNG, whom W. E. FLOYD had succeeded as superintendent of the Goodyear Decatur Mills, Decatur, Ala., had resigned. This was incorrect, as Mr. Young was transferred to the superintendency of the Goodyear Fabric Corporation at New Bedford, Mass., where he is now located.

J. N. JONES has resigned as general overseer of carding and spinning at Phenix Mills, Inc., Plant No. 1, Kings Mountain, N. C., and accepted the position of general overseer of carding at Riverdale Mills, Enoree, S. C. Mr. Jones is succeded at the Phenix Mills, Inc., by W. H. CONNER, formerly overseer of spinning and assistant superintendent of the Algodon Manufacturing Company, Bessemer City, N. C.

JAMES A. WRIGHT, formerly in the weaving department, Callaway Mills, Hogansville, Ga., has become assistant superintendent of the J. W. Sanders Cotton Mills, Inc., Meridian, Miss.

JOHN D. GREEN, formerly superintendent of the Santee Mills, Orangeburg, S. C., and the Bamberg (S. C.) plant of these mills, has become assistant to E. L. Skipper, general manager of the Springs Cotton Mills, Lancaster, S. C. Mr. Green is succeeded at Santee Mills by J. A. BAUGH and at the Bamberg plant by S. CLINTON FARR.

H. B. VINING has become production manager of the Porterdale and Welaunee plants of the Bibb Manufacturing Company, both located at Porterdale, Georgia.

W. C. WATKINS, who for 13 years was with the Sullivan Hardware Company, Anderson, S. C., and who for some years was with Montgomery and Crawford, Spartanburg, S. C., is now back with the Mill Supply Department of Sullivan Hardware Company, located in Anderson, S. C.

THOMAS BRYANT, formerly superintendent of the Greenwich Bleachery, East Greenwich, R. I., has resigned and is now with the Narragansett Finishing Company, Westerly, R. I. Mr. Bryant is succeeded at Greenwich by WILLIAM COAKLEY, formerly with the U. S. Finishing Company, Norwich, Connecticut.

BENJAMIN DAVIES, who has been with the Glenark Mill, Woonsocket, R. I., has become superintendent of the Textile Processing Company, a new firm, located also at Woonsocket.

Obituary

HIRAM W. KIRBY, 62, president of the Cowpens (S. C.) Mills, passed away at his home in Spartanburg, S. C., October 6, following a heart attack.

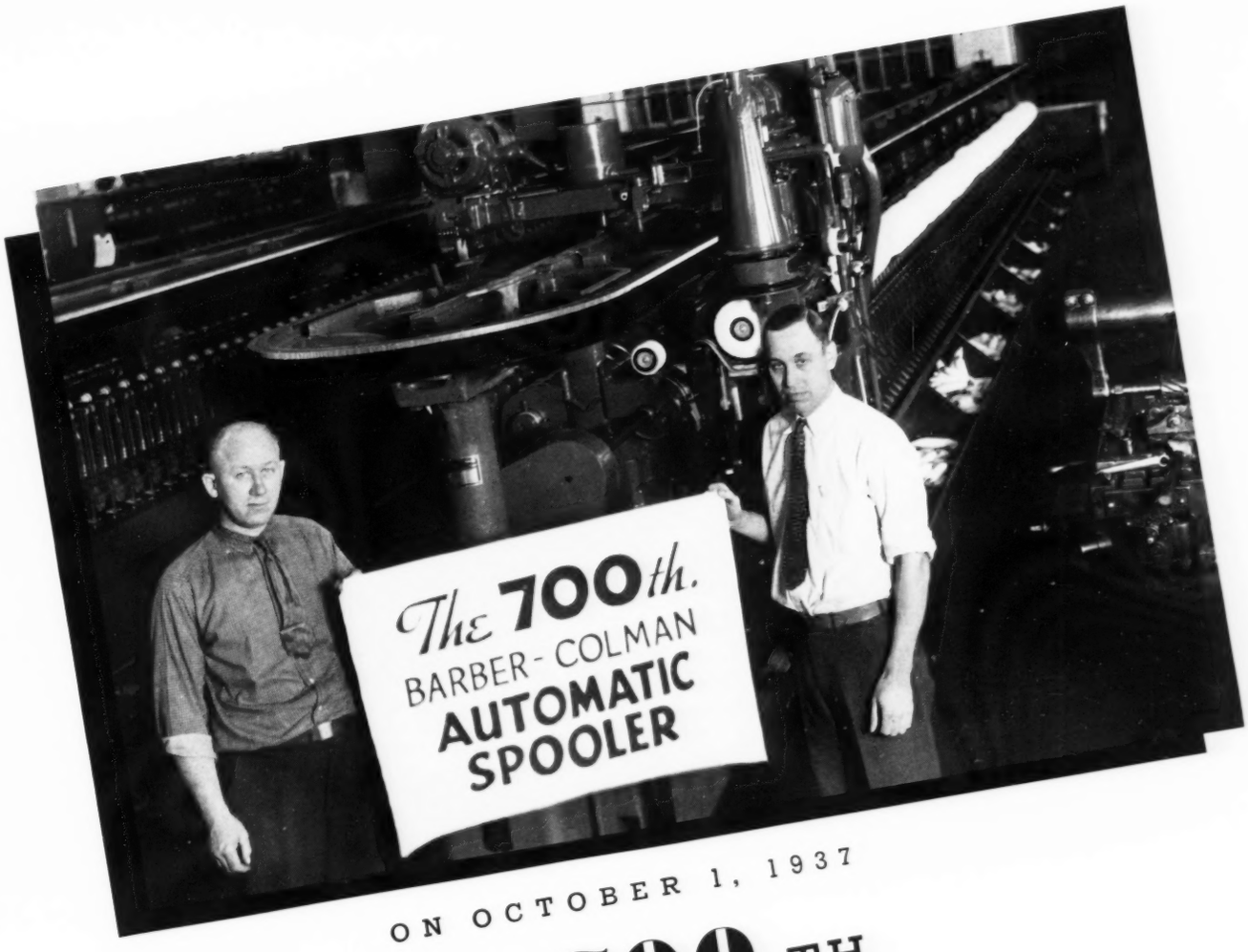
FELIX LOWY, 49, vice-president and general manager of the Holeproof Hosiery Company, Milwaukee, Wis., passed away October 5, following a lung operation.

S. C. SMYLY, executive vice-president of the Eastman (Ga.) Cotton Mills, passed away September 29.

ARTHUR W. BRADLEY 70, superintendent, W. H. Bullard Thread Company, Holyoke, Mass., for the past 35 years, passed away the last of September.

THOMAS FLYNN general superintendent of the Berkshire Fine Spinning Associates, Inc., passed away at his home in Pawtucket, R. I., September 27. Mr. Flynn also served 20 years as superintendent of the cotton department of the Royal Weaving Company, Pawtucket.

(*Additional items on page* 88.)



ON OCTOBER 1, 1937

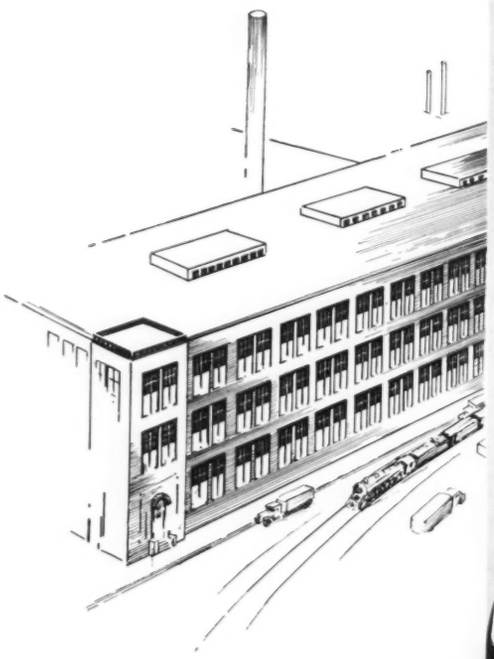
THE 700 TH AUTOMATIC SPOOLER

was shipped from the Barber-Colman factory at Rockford, Illinois. Not that the Number "700" means anything in itself . . . but it demonstrates the extensive use of these machines which, during the last 20 years, have replaced over

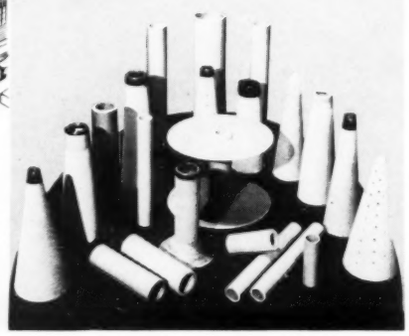
370,000

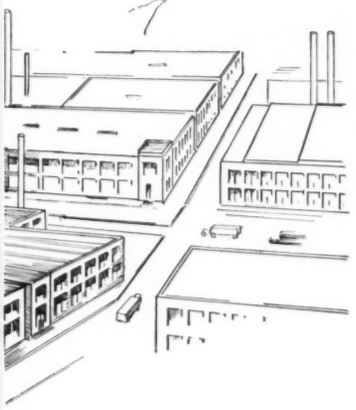
ordinary spooler spindles in the United States and Canada.

THE CHALLENGE of TEXTILE NEEDS



CONES
•
TUBES
•
CORES
•
SPOOLS
•
BOTTLE
BOBBINS





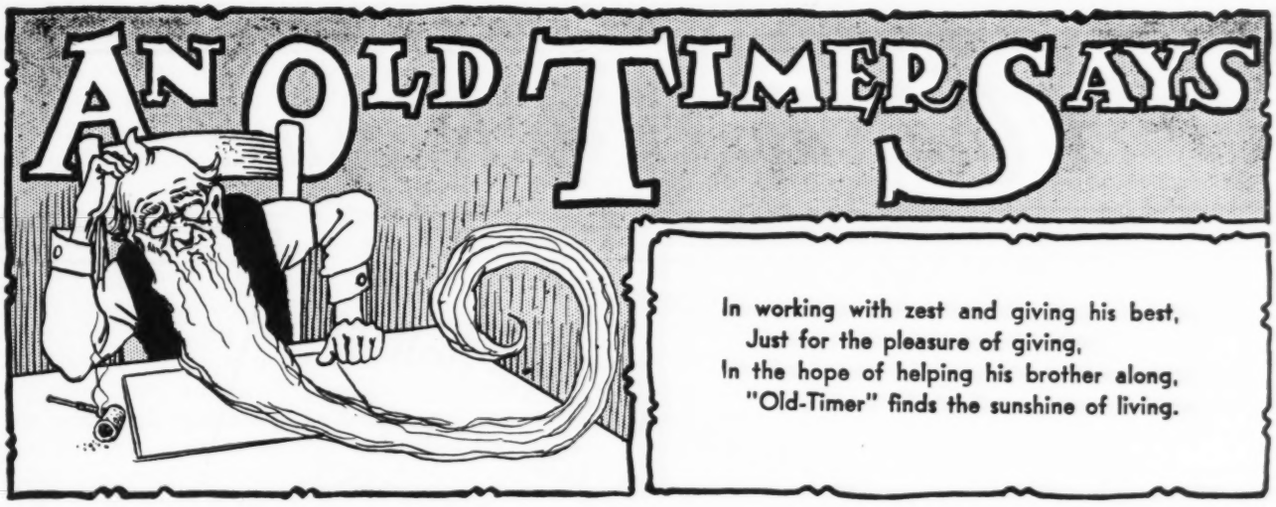
Modern mill operation intensifies the demand for increased operating efficiency in every detail . . . and therein lies the challenge to SONOCO.

Manufacturing paper carriers that meet the exacting requirements of an "efficiency-conscious" industry, is a SONOCO function today which mill men take for granted. Yet behind the scenes at SONOCO it represents an unending pursuit of perfection in products and service, to meet the challenge of an ever advancing industry.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

"The Pleasure of Running a Section"

(Since this article is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER'S part of the conversation, and those in *italics* are JIM'S part.)

JIM, I believe I derived more real pleasure from running a section than any person I have ever discussed the matter with.

Yeah, OLD-TIMER, *I'll never forget how you gloated over showing me the way to stop my card flats where I had flat chains which were worn so badly from rubbing the stripping plate, and—*

Wait, JIM, when I made the remark that I got more real pleasure out of running a section than anyone I had ever discussed the matter with I really had in mind running a section of looms.

There you go again, always harping on looms when you know that a card is the most important machine in a cotton mill.

Hold on, JIM, I was not discussing the importance of the different machines in a cotton mill. I fully agree with you that a card is a very important machine and also the most expensive one in the mill, from an operating standpoint. That is, the amount of waste the card takes out is what I refer to as making it the most expensive machine from an operating standpoint.

If the card would only take out the fibers which are too short to spin and the foreign matter that is left in the cotton as it comes from the picker it would not be so expensive, but all card strips that I have ever seen contain too large a percentage of the long spinnable fibers. One of these days, JIM, one of these smart young fellows is going to make a wonderful improvement on a card by some kind of arrangement which will prevent the carding process from wasting so much long fiber in the strips and, incidentally, that man should soon be able to write his check in seven figures.

(For fear some of our readers may think OLD-TIMER is trying to show that a loom is more important than a card, let me repeat that we are not discussing the importance or value of any of the machines in a cotton mill. OLD-TIMER is merely giving one idea about running a section, and if readers should form the opinion that he is biased in his judgment because he had more experience on looms than on cards, they (the readers) are in error again. For their information, will explain that OLD-TIMER had the privilege of working with a man who was considered at that time to be the most expert man on cards in the South; he was the man who was the author of "Vaughn's Practical Carder". OLD-TIMER was superintendent of what was the largest plant in the South at that time and Mr. H. Vaughn was overseer of carding. He had the peculiar faculty of being able to explain the operation of a card in such a practical, clear-sighted way that I felt as if the card were made of glass and I could actually see the action on the cotton as it passed through while we were standing there and he explained in minute detail its many operations. The association I had with this man, who was considered by the machinery builders, mill engineers and mill men in general as being in a class by himself, so to speak, in his practical knowledge of carding, naturally gave me a background on the subject of carding which not only convinced me of the importance of carding in its relation to the successful operation of a cotton mill, but was of inestimable value to me i anll my subsequent experience.

(Let me also explain to the younger overseers and superintendents of today that back in those days as mills were built here in the South, almost invariably it was overseers of carding who were promoted to superintendents. Grinding cards was considered the most important job in the mill by both mill engineers and mill presidents. I have taken charge of two mills during my experience where the knowledge of carding, based on my early association with Mr. Vaughn, enabled me to make a creditable showing in the operation of those mills, which I feel confident I would have been unable to do but for this early training with a man who was considered a wizard in his line. Now, with this rather lengthy explanation, I hope none of our readers will get the wrong impression as to OLD-TIMER'S opinion of carding.)

WE HAVE persuaded Old-Timer to report here another conversation with Jim. It ran too long for one issue, so here is a substantial portion, and the rest will follow in succeeding issues. We think this is as good as anything Old-Timer has written. He has given in it a lot of practical advice coupled with inspiration and encouragement . .

Yes, JIM, your card is certainly an important machine, but, if you will just keep your shirt on and listen to me, I believe I can explain to you why I got more pleasure out of running a section of looms than you did grinding cards.

Pleasure, me eye! I've always considered running a section darn hard work, and all the other guys I've come in contact with for the past 20 years I've been in

What do USERS say?

"It is not because of the dollar or so we save in the cost per kettle of size that we use Arcy Liquefied 'less costly' starch, but because of the superior results we get from its use."

Just one of the many reasons given by mill operating executives for using the less costly starch liquefied with

ARCY

DRAKE CORPORATION

NORFOLK, VIRGINIA

the mill have about the same opinion, but, I suppose you want us to think it is just like eating apple pie or going to the movies or something.

Just a minute, JIM; why not give me a chance to explain what I had in mind when I made the remark? Then if you don't see my point there is no harm done.

Oh sure, sure, if it's going to be just a one-sided argument, and I'm not allowed to open my mouth—

But JIM, you always open your mouth when you go to sleep, and that is just about what you will do, or at least you usually do—

*Yeah? Well, you old * ! ? ***

And, as for being a one-sided argument, you have forgotten how interested your friends were down at the beach this summer when I explained to them how you put one over on me several years ago when you asked me which operatives in the mill should be best able to tell when it was going to rain. Heck, I had never given a thought to such a foolish idea, and you sure had me, but when you explained that fly frame hands, that is, the observant ones, should be in better position than any of the other operatives in the mill to tell by the operation of their machines when it was going to rain, it was all very simple.

(Here's JIM's explanation: Especially during the summer months when there are several weeks of continuous dry weather, the tension on fly frames will get tighter as the dryness increases, because the bobbin of roving gets larger in diameter with the same amount of cotton, since dry fibers do not lie as closely together as fibers with the proper amount of moisture. This results in the fly frame hand having to slacken on his tension, probably several times, as the dry spell continues; then the humidity in the air usually begins to increase before the actual rain comes. When humidity in the air begins to increase, cotton fibers lie more closely, which, in turn, decreases the diameter of the roving, with the result that the ends or tensions on his fly frames begin to get slack and he has to tighten up on his tensions. By this, he knows it is going to rain, either at that mill or pretty close around, in the next few days. . . . Of course we were talking about conditions as they existed several years ago when we were having experience with running fly frames. Modern humidifying systems have greatly lessened the effect that extended dry weather has on the operation of all mill machinery, and, I predict that perfect air conditioning will not only entirely eliminate such an experience as JIM talks about, but will be the one biggest step forward in cotton manufacturing that we have had since the introduction of the automatic loom.)

O. K., OLD-TIMER, *go on with your "pleasure-of-running-a-section" discourse and let 'em give you the horse laugh, and a bushel of raspberries, or something.*

Well, JIM, it's this way: you can set the flats on your card to an exact 9-gauge, your doffer to cylinder exactly, your feed plate to licker-in to 9-, 10- or 12-gauge or whatever settings you are using and then you go on to the next card. Unless something out of the ordinary happens, that card will go right along doing good work until the time comes around again for you to go over those settings on that particular card.

If you are a good grinder and take proper care in setting all the parts of a card to the proper gauges you have done all you or any other grinder can do. There is no way, that I know of, that you can use your gauges in setting that card up which will make it run longer before needing another setting than any other good grinder can do. In the average mill card flats and other parts are set after running a certain number of days or weeks, regardless of how much care was taken the last time they were set. This same procedure holds good for most of the other settings on a card. Screens are set every so many weeks; even grinding the cylinder, doffer and flats is done in a certain specified time, according to the experience of the overseer, superintendent or someone who has the authority to designate when or how often such settings should be made.*

The point that I am going into so much detail to bring out, JIM, is that if you set the flats on your card even better than the average grinder, if you have a more delicate sense of touch in handling the gauges than the average grinder, still you must go back to that card to reset those flats in the *same* number of days that the other grinder does. But, if I put a new shuttle in a loom in such a way that I will have to return to that loom only *once*—that makes two trips to that loom—to get the shuttle settled down to running properly, and some other section man has to return to his new shuttle the second time—that makes three trips to that loom—then, by golly, I am doing one-third less work, by using my brains, than he is, and getting more production too, because my loom is making cloth while his loom is stopped during the time he is working on it the third time. This same reasoning applies where one section man can put in a new shuttle and not have to return to the loom at all, where the other fixer has to go back to his new shuttle the second time.

You see, JIM, if I am a better mechanic, a better loom fixer, than the other fellow; if I study loom fixing more than the other fellow, I reap the benefit of my study by doing less work than the other section men who just fix a loom to make it run. That is what I mean by saying that I got more pleasure out of running a section than did the other fellow. If I could study out a way to make my loom run longer without getting out of fix, that gave me pleasure to realize my *better* work resulted in my doing *less* work. In other words, a section man is rewarded for his efficiency.

Let me give a few more simple illustrations: Just walk through the average weave room and look at the hold-up straps on the picker sticks. You will notice that a large percentage of the hold-up straps are loose on the screw which fastens them to the picker stick; that is, the screw was not turned enough turns to

(Continued on page 105.)

*For fear that some overseer of carding or other reader in the carding department will think that OLD-TIMER is trying to belittle their work, let me state again, but in different words, that OLD-TIMER knows from experience that a grinder of superior intelligence will derive the benefit of that intelligence when working as a card grinder or overseer of carding. I can relate numerous instances where I have called on the card grinder in a mill, whom we all considered the best grinder, to help us out on some particular card that was making a bad selvage, a cloudy web, or when the flats were filling up or some other job on the card that we were stuck on. And of course that card grinder derived much pleasure out of being able, by his superior knowledge, to show us how to fix that card.

OLD-TIMER could go on relating one instance after another to show how a card grinder can and does derive the benefit of his superior knowledge over the ordinary or average grinder. And probably we will just do that very thing some of these days, but JIM and OLD-TIMER started out talking about the pleasure of running a section in the weave room, and we must "stick to our knitting" and get back in the weave room, hoping that all of you superintendents who have been carders, overseers of carding and card grinders, as well as superintendents who have been spinners, overseers of spinning, and section men in spinning, will study the reasoning related by JIM and OLD-TIMER, and get a lesson out of their experience which can be applied to the other departments.—OLD-TIMER.

ALL STEEL
ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.
ECONOMY BALER CO., DEPT. C ANN ARBOR, MICH., U.S.A.
REPRESENTATIVES:
New York Office: 100 Gold St.
Philadelphia Office: Drexel Bldg.
Terrell Machine Co., 1200 No. Church St., Charlotte, N. C.
Boston Office: 601 Atlantic Ave.
Economy Baler Co., Box 653, Atlanta, Ga.

CLINTON STARCHES
FOR ALL TEXTILE PURPOSES
Manufactured by
CLINTON COMPANY
CLINTON, IOWA
QUALITY SERVICE

CEREPURGE

CEREPURGE, as its name indicates, is to remove or "purge" sericin from silk: Can be used in one bath, split bath, or, two bath method.

CEREPURGE is a "built" alkali, with added colloids, solvents, softeners and detergents, resulting in a perfect physico-chemical balance that insures a complete degumming process at the lowest possible pH; rinses easily and quickly out of the fabric.

By varying the per cent of CEREPURGE in the solution and the length of boiling out period, you get a complete or partially degummed fabric to meet your *exact requirement.*

CEREPURGE assures you of softness of hand, true colors and level shades, because of its greater penetration.

CEREPURGE being slightly alkaline will not work with dyes requiring an acid or neutral solution.

DETERGENT PRODUCTS CORP.
• ATLANTA, GEORGIA •
RALEIGH, N. C. TEXARKANA, ARK.
COLUMBIA, S. C. BUFFALO, N. Y.

Prevent Oil Spots

NON-FLUID OIL is a sure remedy for oil spots. Drip-less and waste-less, it stays in bearings, outlasting liquid oil 3 to 5 times.

For this reason—cost of lubricant and application are much reduced. These savings are added to that made by avoiding loss from "seconds."

Write for free testing sample and instructive bulletin

New York & New Jersey Lubricant Co.
Main Office: 292 Madison Ave., New York, N. Y.
So. Agent, L. W. Thomason, Charlotte, N. C.
WAREHOUSES
Chicago, Ill. Detroit, Mich. Atlanta, Ga.
Providence, R. I. Charlotte, N. C.
St. Louis, Mo. Spartanburg, S. C. Greenville, S. C.

TRADE MARK REGISTERED
NON-FLUID OIL
IN U.S. PAT. OFFICE & FOREIGN COUNTRIES
MODERN TEXTILE LUBRICANT
Better Lubrication at Less Cost per Month

HOW OTHER MEN MANAGE

Practical Discussions by Cotton's Readers On all Varieties of Mill Subjects

Spinning Room Pointers

Bringing out a number of the fine points that often slip by our notice during the mad rush for production . . . . . .

EDITOR COTTON:

In order to maintain a good spinning department there are numerous items which must be checked on from time to time, or even the smallest may cause much damage, both in the spinning room and in the processes that follow, if it goes uncorrected.

Beginning with the roving boxes: if wooden boxes are being used they should be lined on the inside with cloth. Lined boxes prevent splinters and projecting nails from tearing and stretching the roving. Anyone knows that roving which has been stretched in places will run thin and irregular yarn in the spinning frames.

The roving boxes should be clean and free from loose fly which will hang to the roving packages and will spin thick places and gouts in the yarn. Also, dirty and stained places in the roving boxes will stain the roving, causing soiled yarn after it is spun. Is the roving stacked or thrown in the boxes? If it is thrown in the boxes then it will stretch where the package strikes the sides of the box or another package, and this roving will spin thin and weak places in the yarn.

If full boxes of roving are stored in bins over a period of time before they reach the spinning room, the first layers of roving on the bobbins will stretch and spin into imperfect yarn. The workers should always handle the roving packages carefully in placing them on top of the creels. When a bobbin of roving is dropped heavily on the top creel or slid along on the creel, the roving will stretch.

When overhead cleaners are used in the spinning room, the force of air blown on the roving bobbins should not be too much or the air will whip out the loose fibers in the roving and cause gouts in the yarn. Also, if the roving packages are stored on top of the frames for too long the air from the overhead cleaner will cause the same trouble by its continual stream of air as the cleaner passes over the creels.

Painted Bobbins Designate Hank

There has been some discussion among mill men on designating the hank of the roving by painting the bobbins a different color for each hank made. If the bobbins are so marked then the difficulty of having mixed roving is lessened. Along this line might come the checking of the different hanks of roving for twist. This should be done because if too much twist is in the roving it will be hard to draw and will spin uneven yarn; conversely, if there is not enough twist in the roving it will stretch as it is pulled from the creel and spin uneven yarn.

A number of other points come to mind that should be checked so that better yarn may be produced in the spinning room. Very few mills can keep the relative humidity at just the desired degree, but by checking at regular intervals the humidity can be regulated easier. If this is not done then the humidity may vary a number of degrees which is certainly not conducive to a good running spinning room. Even the floors in the room should be checked at intervals because bad places in the floor will often cause a truckload of yarn or roving to tilt and throw the stock out on the floor, damaging it. The system of sweeping should be such that the floors are free from waste because lint and fly will be stirred up and fall into the spinning yarn. When the ceiling is being cleaned, if a little time is spent in covering the spinning frames a number of gouts can be prevented.

Are the speeds of the machines checked? Each machine builder has in the past published a catalog giving speeds that the frames should run on certain counts, the standard turns of twist per inch, and pounds per spindle, but in the past 10 years we have been installing both large and small package spinning so it is difficult to set a speed for a spinning frame. Some mills sacrifice production in spinning to gain a large package for the next process. In the same category, when checking the speeds of the frames, it is a good idea to make end breakage tests to determine the best speeds for quality and quantity. When checking the twist on roving, it is also well to carry this up to the spinning room and check the twist there because so often the counts have to be heavied or lightened to keep the cloth weights right and often the correct twist multiple is not maintained. By the way, the twist should be termed "multiple" and not "turns of twist" as we so often

WE invite our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

• •

do. It is much easier and clearer to say, "I am using a 3.60 twist multiple in my filling and a 4.75 twist multiple in my warp" than to say "I have so many turns of twist in this count and so many in another."

If several different counts of yarn are being run, and there is a good bit of changing, it is important that the drafts be checked because either a draft that is too long or too short will make uneven yarn.

Checking the work load of the various operatives in the spinning room is necessary because often some workers have reasonable loads and others are either doing too much or too little, for their own good and for the good of the company. If time and motion studies are made on the different jobs a great deal of lost motion in the operative's movements may be eliminated. It is also well to check the wage scale on the different counts. When a mill pays the spinners and doffers by the hank, the changing of yarn counts will automatically change the number of hanks produced by each machine, thus increasing or decreasing wages. In such instances an adjustment in work load and pay should be made.

Carelessness Causes Accidents

Has the spinning department in your plant a high accident rate? Most accidents are caused by carelessness on the part of the workers, and they should be instructed in safety rules, and should be taught to caution a fellow worker when he is doing something improperly that may cause him or others to be injured. The trucks should be checked for loose bolts, the boxes for loose boards and projecting nails, and the workers in the manner that they handle the trucks and boxes. Materials stored on the floor or on shelves should be piled or stacked so that it will not fall; the treads on the stairways should not be allowed to wear so much; there should be no loose boards or nails in the floor; all workers should be instructed to watch for damp places on the floor where they may slip—a good idea is to keep a bucket of sand or sawdust in the spinning room and sprinkle the contents of it on any damp place. Many accidents are caused by the operatives not knowing the proper way to lift heavy things and they should be taught this.

There are many things that an overseer or superintendent must check in his spinning department; some of the workers are better suited for one task than for another, and when this is discovered they should be changed to another job in a tactful manner. The operatives should be trained to report any difficulty they are having with their work, and then it is up to the overseer to see that something is done to remedy the trouble if possible. In having the operatives report trouble, much trouble will be called to attention that would otherwise go without being noticed by the overseer, superintendent, or second hand. The worker is no more interested in his job than is the man in charge of the work; if he is encouraged to aid in the running of the room, such as discovering trouble, he will prove to be a great help.

And last, do you have a system of checking up on the things that should be checked upon? Do you know what you are looking for, or do you wander through the room haphazardly?

ALA.

Replies to "Wash"

Concerning his statements pertaining to the value of a research department . . . . . .

EDITOR COTTON:

On page 95 of the July 1937 issue of COTTON, "WASH" asks, "Does It Pay to Have a Research Department?" and then goes on to give the impression that a research department is not worth the space it takes up in a corner of the mill.

In previous articles "WASH" has given me the impression of being a very smart man, but since his July article I am beginning to lose confidence in him. For instance, such big organizations as U. S. Steel, Goodyear, Callaway Mills, Pacific Mills, etc., would not be spending as much money as they are for research if it did not pay. Of course, I do not say that all mills can run their research departments by any set rule because local conditions always alter matters, but I do say that if a research department is run correctly, it is an asset to any plant.

It is not necessary to have a practical man for this work. It is best to have a man that will not show partiality to any department, no matter which one it is or who is running it. Suppose, for instance, an overseer with 10 or 15 years experience in one certain department is placed in the research department. Naturally he will lean toward that department and want to enforce his own ideas when making the tests, and he would not carry out the orders as given him.

"WASH" says: "Should one of these research men be asked the number of blows to the inch stock receives in the picking process or if the draft is excessive, he could not answer." I say that the research man is not supposed to know this unless he has been instructed to make tests on this subject. In fact, how would "WASH" know the correct blows per inch or the correct draft if he had not made tests to determine same? That is what a research department is for—to find which drafts, settings, speeds, etc., are the best for local conditions.

"WASH" compares a researcher with a roving tester which I think is a good comparison, but he says the researcher is unable to point out the source of the defects. The researcher is not supposed to point out the source of the defects; he, like the roving tester, is supposed to present his "findings" to the superintendent and overseer and let them point out the source. If the researcher could point out the source of trouble, then he should have the overseer's or superintendent's job.

How would the practical man know what is causing his looms to stop unless he has someone to make a thorough test for stoppage, listing each cause for stoppage as it should be? By having a researcher

make such a test, the overseer or superintendent can determine from findings whether weak threads, gouts, or spooler kinks are causing most of the loom stoppage. Then he is supposed to know how to locate the trouble.

The man that does not make such tests with a good impartial researcher and only bases his opinions on observations, will wake up some day and find he is the cow's tail. I think the perfect set-up is to have good practical men in charge of departments and have them work in conjunction with a good research man. The research man can be shifted from one department to the other and he should give a copy of his findings, on whatever subject he is testing, to both the overseer and the superintendent.

CONTRIBUTOR NO.6726.

Correction

Due to a typographical error, the table of staple lengths and yarn numbers appearing with the article, "Some Factors That Affect the Spinning Value of Cotton", page 67, September COTTON, was incorrect. The entire second column, on "Carded Yarn", was inadvertently one line lower than it should have been, resulting in the carded yarn numbers being aligned with the wrong staple lengths, and no yarn numbers being aligned with "½" to 5/8"" staple. The complete table, in its correct form, is reproduced below:

Staple	Carded Yarn Warp	Carded Yarn Filling	Combed Yarn Warp	Combed Yarn Filling
½" to 9/16"	Up to 10s	Up to 10s		
9/16" to 5/8"	10s to 14s	10s to 20s		
5/8" to 7/8"	14s to 20s	20s to 30s		
7/8" to 1"	20s to 30s	30s to 36s		
1" to 1 1/8"	30s to 36s	36s to 45s	to 30s	to 40s
1 1/8" to 1 1/4"	36s to 50s	45s to 60s	30s to 60s	40s to 70s
1 1/4" to 1 3/8"	50s to 70s	60s to 80s	60s to 70s	70s to 100s
1 3/8" to 1 1/2"			70s to 80s	100s to 120s
1 1/2" to 1 5/8"			80s to 100s	120s to 150s
1 5/8" to 1 3/4"			100s to 180s	150s to 180s

Asks About Slub Filling

Would the use of reverse twist roving aid in making reverse twist slub yarn? . . . . . .

EDITOR COTTON:

I am interested in and would be indeed grateful for any information your readers could furnish regarding the making of slub filling on the spinning frame. I have done some experimental work along this line with a motion that jumps the back and middle roll ahead, thereby making a bunch between the front and second roll. The middle rolls are unweighted and the break draft is 1.08. The roving is regular twist and the yarn is spun reverse. The results obtained have not been very satisfactory as the bunch is lacking in twist and is very weak and pulls apart very easily.

It occurred to me that in the spinning of reverse twist slub filling there might be some advantage in the use of reverse twist roving instead of regular twist. It seems to me that this should help to make the bunch stronger than it would be with the regular twist in the roving. Have any experiments ever been made along these lines? If so, what results were obtained?

I understand that sometimes slub filling is made by having the back and middle roll running constantly and stopping the front roll for a second or two to make the slub. Have the readers any information on just how this can be done and how this could be effected on a Mason frame?

Any comments on making this type of filling with reference to break, drafts, weighting or unweighting the middle rolls, the type of twist necessary in the roving, and particularly about the making of slubs by stopping the front rolls will be most welcome.

CONTRIBUTOR NO. 6727

"Wash" Gives Us a Lesson In History

EDITOR COTTON:

Few people in the cotton industry ever heard of the name "Sleddon". But great was Sleddon for in the year 1841 he invented the coneless fly frame.

Read your history of the textile industry and you will find that this man was the first to consider the pressure of the paddle. When we had the flyer-lead system the Sleddon idea of the disc was possible because of the advantage of the flyer-lead system, on which the speed of the bobbin is lower at all times during the winding than on the bobbin-lead system.

Sleddon should have a more prominent place in history, but like Selden, inventor of the gasoline motor in the year 1879, he is the forgotten man.

At the time of Sleddon, the best device to obtain a uniform winding speed consisted of straight-base cones with a fish-tail arrangement attached to the builder motion. Sleddon studied the fish-tail arrangement that gave the actual curve and figured the difference between that and the straight line curve. He could not explain the reasons for this difference.

However, his great mind convinced him that the first layers wound on a hard, unyielding surface such as a bobbin, flattened out more than those later on when they were wound on the soft surface of the bobbin. So, he invented the disc and bowl drive in the form of a scroll. The scroll arrangement takes care of the increase on the bobbin. This invention was never considered in the cotton industry because of the friction between the roller and the disc; the drive was similar to that of the Metze car which proved to be a failure. The small roller was the driver and the disc was the driven wheel, which, through a chain of gears revolved and controlled the speed of the bobbins.

Sleddon had a perfect motion but it was not a positive infinite variable drive. Had he turned his great mind to the making of a governor instead of a drive, there is no question in my mind but that it would have been adopted in the cotton industry—for the reason that even roving depends on the good working of the cone belt that is overworked under the best of conditions.

We now have a patented motion which makes governors only the disc and the roller. The spindles and

bobbins are driven at all times by the driving shaft.

The top cone shaft drives the disc at a standard speed and the small roller takes revolutions from the bobbins. In other words, the small roller drive is so arranged in the differential that it has a tendency at all times to revolve at a speed faster than that of the disc but it is checked by the disc and the surface speed of the disc is so arranged that it revolves the small roller enough to reduce the speed of the bobbins. In other works, the faster the small roller revolves, the slower the bobbins move.

So, it can be deduced from the foregoing that no friction can exist between the small roller and disc because the small roller and disc do not give power to the bobbins, but instead, govern their speed only. The principle is the same as thaat of the governor on the steam engine.

My study of a complete steam engineering course was a great help in my making a perfect coneless fly frame. In the near future I will send all drawings to the editor of COTTON, so watch out.

WASH (R. I.)

Oil in Yarn is Unnecessary

Also asks question on a lubricating department in the mill . . . . . .

EDITOR COTTON:

Oil spots in the yarn are troublesome and they are so unnecessary. Most of them are caused by over oiling, especially on revolving parts which will sling the oil into the yarn. The men doing the oiling must be trained properly and then followed up daily. All of the overhead hangers should be watched because oil dripping here and there make spots in the yarn which become streaks as the yarn is drafted several times.

When oiling the coilers on cards and drawing frames, remove the coilers and wipe them and the track clean—then only a few drops of oil will be necessary on the coiler track. If the track is oiled too much, the oil will be forced out when the coiler is replaced so there is no need to use much. Besides, the sliver will rub against the coiler and absorb the excess oil.

Care should be exercised when oiling the rolls on the drawing frames, slubbers, intermediates, speeders, and spinning frames to see that no oil reaches the steel or leather rolls. Before putting roving on the creel the tops of the creel should be wiped clean and the trucks should be clean before the roving is put into them. Often the roving trucks are used to carry dirty machine parts to the machine shop for repair; these trucks should be cleaned thoroughly prior to their being used again for transporting roving.

Counter belts will throw oil scales on the work below if they are not watched. There are many other places where the oil will cause damage, but these mentioned are the most important to be noted.

If anyone has had any experience with a "Lubrication Department" for the whole mill, supervised by one man, I should like to have his experiences with this system.

CONTRIBUTOR No. 6681

Training Loom Fixers

This fellow "came in late", but has some good thoughts, just the same . . . . . .

EDITOR COTTON:

This discussion of training loom fixers and weavers was started some months ago* and I must say that it is very appropriate. I strongly advise training of help in any mill regardless of what it manufactures; this applies to cotton mills as well as rayon, silk or woolen mills.

This subject has a particular place in my heart as I am a strong believer in giving the man under us a chance. Perhaps I feel this way because I was in the same position myself once. I was virtually raised in the mill and most of my time was spent in the weave room. Starting as a weaver the very day that I became of working age, I have never realized my one big ambition of my weaving days, and that was to become a loom fixer. Perhaps it's just as well because I am no longer a weaver (in the sense of actual operation). But the fact remains that as hard as I tried, somehow I just did not fit, except that I was a weaver and it seemed that I would always be used in that capacity while other fellows that came after me went on as changers and loom fixers. The real reason for this I did not know but I always felt that I was as intelligent as the men preferred.

Don't misunderstand me. I do not want to write an autobiography in which I would picture myself as a martyr to the cause. My only purpose in bringing this point out was that I believe that many young men, ambitious and intelligent, are never given a chance. These boys are not slackers by any means; they have hopes and aspirations but because of the system, or shall we say lack of system, in many of our mills, they are completely overlooked. Perhaps they are so efficient at their present task (and this is more truth than poetry) that overseers fail to give them deserved promotion. They are afraid that this would leave them with a job that would have to be filled by someone that is not of the same high caliber. But isn't it only logical to think that if a man is efficient in one position that he will be just as efficient in another, providing he is given the proper opportunities and instructions?

Operatives in the mill may be placed under two headings, local or village, and, transient or floating.

The local or village operatives are those that have settled in the town and in most cases they have families that are workers in the same mill. They are a class of people that want to work and do not shirk

**The original question appeared on page 83 of the January issue and subsequest answers and discussions appeared on page 102 March issue, page 119 April issue, page 118 of the May issue, 81 of the August issue, page 101 of the September, 1936 issue and page 162 of the April 1937 issue.*

it; all they ask is a living wage and decent living conditions. The parents may be getting along in years and do not think of themselves but only worry whether their children are started on the right foot. Their children in turn are just as hard working as the parents but they, in most cases, are thinking of the future—the future that must hold someting better. Opportunity. These parents and their children usually form the nucleus upon which the mill depends to a great extent. The hard truth is that advantage is usually taken of these people and they are singled out for examples by laying off or by being placed on bad jobs. The reason behind this is that they are settled in the town and are available at any time.

The transient or floating help is just what the name implies. They stay one day, one week, or three months at the most; always moving, and they are never in one place long. But it seems that in most mills they are always being mollycoddled. The answer is, "We are short of help, which is hard to get, we can't afford to be mean to him or he may quit. Let's lay off some of the town help because they won't go away." Unjust but true.

Going deeper into this, I would say that if the floating help was any good they wouldn't float. They are always complaining, "We never did this in the other mill," or "We work too hard here." Why not give the cream to those who stay with us in good times or bad? Why not give their children the opportunities and training for which they hunger? Let's give them some incentive so that they will try to better themselves and become more efficient and better producers of quality goods.

Probably some executive will say, "Oh! But this is too expensive; we are too busy to bother and we can't afford to spend any time or money."

To this executive I would say that to receive profits he must invest. This investment must be in trained help.

It has been my privilege to train young fellows in weaving and loom fixing for the past three years. I have been and still am in charge of the training program in our plant. I am ably assisted by five other men of ability, all practical men in every sense of the word; they have been in the mill and under a loom many times.

Our loom fixing classes meet two afternoons each week and the group is divided into two classes, plain loom fixing and fancy loom fixing. Each class is also divided because the enrollment is so large that we could not give the men proper instruction in such large numbers. We do not like to have more than eight students in a group where there is only one instructor. This permits individual attention.

Most of the time is spent in actual practice and we have set aside one afternoon every three weeks for theory. The plain loom class is given a lecture separately and on different afternoons from the fancy class. Fundamentals of weaving and operation, the loom and its motions are studied. Then we work on the individual parts, correct names, speeds, efficiency, production, take-ups, harness, reeds, harness drafts, chain drafts, etc. The settings and timings and various types of fabrics, bobbins, shuttles, and fillings are explained.

The practical part of the program takes the student to the actual work on the looms. In connection with this it must be understood that a sufficient number of looms are set aside for this purpose so that each loom is not overcrowded; nothing is so hindersome as a large group around one loom trying to do the same thing at the same time. The students do the actual work with the instructors supervising. This necessitates a good supply of tools.

Each motion is taken in its turn as shedding, picking, take-up, let off, etc., and each student is required to tear down, assemble, and re-set the motions. Towards the end of the term, looms are completely torn down and groups assigned to rebuild them.

Some of the afternoons are spent in an open forum where the students are questioned on the various faults of looms such as banging-off, flying shuttles, mis-picks, broken filling, bad doffing, etc., and where they may also ask questions that they have thought of themselves. It is surprising how many causes a group can think of in the course of one session for any particular fault. In fact they find so many reasons for defects that it is well worth while to make a list and later give them mimeographed copies.

It isn't hard to select the fellows that are good prospects for fixers and these are made changers and spare fixers as the openings occur.

P. R. K. (MASS.)

Grain Side of Belt Goes Next to Pulley

EDITOR COTTON:

We have noticed in the March issue of COTTON, page 115, that "CONTRIBUTOR NO. 6615" has asked which is the proper side of the belt to run next to the pulley, the hair or flesh side.

All leather belting manufacturers, to our knowledge, recommend that the hair or grain side of the belt be run next to the pulley. This is done for several reasons. It seems obvious that the hair side would be the toughest part of the leather because it is on the outside of the animal and naturally is more "weather beaten". Nature must take care of the animal so that when it is subjected to the elements its hide will protect it. The hair side of the leather has the greatest wearing ability and is resistant to wear created by slippage of the belt on the drive. Most every belt that is installed is subjected to slippage in one degree or another and it is the grain or hair surface of the leather that is capable of withstanding this great wear.

Furthermore, the maximum coefficient of friction is obtained when a leather belt is driven with its hair side to the pulley, therefore, it is capable of transmit-

Other answers to this question appeared on page 119 of the May 1937 issue and page 107 of the September 1937 issue.

ting its maximum capacity when it is operated hair side to the pulley surface.

It is quite true that leather belting for transmission purposes of two-ply construction is never made with the flesh side out. This, in itself, would tend to prove that the grain side should be operated to the pulleys. There are occasions, however, when the flesh side is operated to the pulleys where an excessive amount of slippage is desired for proper operation of the machine. These cases, however, are so rare that they cannot possibly be considered general.

CONTRIBUTOR No. 6654

Warp Slipping on Loom Beam

EDITOR COTTON:

In reply to "CONTRIBUTOR No. 6662" who asked the cause of yarn slipping on the loom beam, on page 129 of the June issue of COTTON, I wish to state that there are 3 causes of the yarn slipping on the loom beam and wearing the selvages against the beam head.

1. The yarn is started improperly on the loom beam barrel at the slasher and it slips until the diameter is so reduced in weaving that the yarn is drawn tight on the barrel.

2. The warp is wound on the beam at the slasher with less tension than there is in the weaving process.

3. The warp is wound so loosely on the beam during slashing that the yarn will rub back and forth against the beam head every time the reed beats up the filling.

To avoid the yarn being started improperly on the beam barrel, it is necessary to fasten the yarn securely to it. This may be done by the operator's taking care that there is sufficient tension on the yarn when the beam is started around the barrel. To have little or practically no tension on the yarn when the beam is started and then to increase the tension later invites trouble. When using the simple wrapping-around-the-barrel method, the sheet of yarn should be wrapped around the barrel so there will not be any tight and loose sections. If there are tight and loose places, the relatively few ends in the tight sections absorb all the strain and they either slip on the barrel or stretch under the abnormal tension placed on them.

It is far better to use beams with grooved barrels on which the yarn is fastened by means of driving a rod over the yarn and into the groove. This holds the yarn securely to the beam barrel and no slippage will take place. Another method, though not so practical as the grooved barrel, is to fasten an apron to the beam barrel and tie the warp in small sections to the apron. This will prevent the yarn slipping on the barrel but it produces an unbalanced beam when the warp is woven down to the last few yards. At this point, the knots in the warp, where it is tied to the apron, will protrude under the overlapping yarn sheet. This, of course, increases the diameter on this side of the warp and every time this comes around there is a tendency for the tension to be reduced because of the larger warp diameter. In using the apron method, the division of the yarn sheet must be very small so as to reduce the size of the knots as much as possible. This method requires considerably more time to start up the beam than the grooved barrel method.

The warp being wound on the beam with less tension than with which it is woven off is due to insufficient tension at the slasher. In this case the yarn does not slip on the beam barrel but the warp is made so loosely that when the weaving tension is applied the layers of yarn are drawn tighter until the beam is firm enough to resist further tightening. The beam remains stationary until the tightening of the yarn reaches the point where the firmness of the beam overcomes the breaking effect of the let-off. Weaving under this condition becomes difficult and the friction between the yarn and beam flange either completely severs the selvage threads or weakens them so that they break during weaving. The remedy for this is to have sufficient tension on the yarn in the beaming. The beam must be firm, but the yarn must not be overstretched, which would bring on more trouble.

When the warp is wound on the loom beam loosely, it forms a springy foundation for the yarn and as the reed beats up the filling there is a slight displacement of the yarn on the beam. As the reed moves away from the fell of the cloth, relieving the tension on the warp, the springy foundation will cause the warp threads to move back on the beam, resulting in a continuous rubbing of the selvage threads against the beam flanges and the threads are severed or weakened so they will not stand the strain of weaving. Besides this trouble, a loosely wound warp effects a serious beat-back of the cloth.

If the beam has flanges of the skeleton type, the paramount, in this case, that the warp be made firm so there will be no friction between the yarn and the trouble with cut selvage threads is increased. It is flange. With the new, smooth, solid beam flanges the selvage threads are cut rarely, but the beam, nevertheless, should have the necessary firmness as it will be more conducive to good weaving.

IVAR MOBERG

Fiberglas for Textiles

(Continued from page 43.)

13. *Packings.* Fiberglas products include packings made from slivers, yarns, braid, etc.

Fiberglas has been used in large quantities for the following products which have been used throughout the country for several years:

Air filters, house insulation, hot water heater insulation, refrigerator insulation, acoustical products, felted materials for special purposes, blankets for insulation purposes, battleship insulation, pipe insulation, and special cements.

Fiberglas was developed by the Owens-Illinois Glass Company, industrial and structural products division, Newark, Ohio, and is fabricated by them into all types of products. The following companies have taken licenses and are manufacturing glass fiber products by the Owens-Illinois Glass Company's process:

Corning Glass Works, Corning, N. Y.; Actien-Gesellschaft der Gerresheimer Glashuttenwerke, Dusseldorf, Germany; Chance Bros. & Co. Limited, Glasgow, Scotland; Cie de St. Gobain, Paris, France; Maatschappij tot Beheer en Exploitatie van Octrooien, N. V. Scheveningen, Holland; and M. V. Vereenigde—Glasfabrieken, Schiedam, Holland.

"Trifles" or "Details"

EDITOR COTTON:

During periods of rush there seems to be a tendency to let up, not only in quality, but in essential details of cost, waste, supplies, safety and discipline. In the push for production all restraint is often thrown aside until some morning the superintendent notices that the supply bill has gone sky-high, or he goes through the mill and sees white waste scattered about on the floor, bobbins and quills under all the frames and looms, or a bad accident happens because of the neglect on the part of some supervisor. Then the fireworks start!

Maybe the writer is too much of a stickler for details, but some supervisors that I have known, who themselves know the difference between trifles and essential details, in their effort to train their subordinates not to waste their time on things of no importance, have left the impression that the successful man pays no attention whatever to details. The result is, of course, sometimes costly to the mill, as well as annoying to the ones who have to straighten out the tangles.

Overseer's Time Is Valuable

On the other hand I do not think that the overseers and the second hands should spend most of their time checking looms, warps, yarn, nor in making records and reports at which no one ever looks. Neither do I believe that a mill saves much money by having section men and loom fixers sweep and clean down. All of these things are important and should have attention, but the overseers, second hands and the section men can better employ their time than in actually performing these tasks.

Carelessness and inattention to details are responsible for such errors as wrong change gears being used, yarn marked wrong, warps with incorrect tags, warps on wrong beams, repair parts that do not fit, pay roll errors and so on. I have known supervisors, splendid men in many ways, but they were not "detail" men, and the way they got by this fault was that they were smart enough to have some responsible person check their work. Of course one does not have to look far to see who *might be* the goat if something slipped.

While some supervisors are very careful in the matter of records, others consider this a useless detail and as a result when some matter must be looked up much valuable time is often wasted before the report in question can be found. If a report is worth keeping it should be filed in such a manner that it can be located with the minimum of lost time. Items of no importance should be put in the waste basket rather than in the filing cabinet.

Tickets, tags or other markers for yarn or warps should be made with great care by some responsible person—and it is of the same importance to see that the correct tag is put on each box of yarn or on each warp.

In the matter of production, cost, waste and supplies the writer is of the opinion that, if the set-up of the mill will permit, weekly reports of these 4 essential details should be made, with standards or some kind of comparison to show whether each department is in line with its possibilities. Surely these reports will be made at least monthly and once a week is better. If personal feelings are kept in the background the foremen's meeting is the ideal place to discuss these reports.

The successful overseer will not overlook the detail of bad work from his department. Human nature is such that when we are called by another department supervisor to look at some bad work we do not feel inclined to send him a card of thanks. But instead of fuming and fussing, as I have seen some overseers do when they had to look at some bad work, wouldn't it be to our own interest, as well as to the interest of the firm that pays us to honestly try to correct the condition that caused the bad work? In fact instead of spending a lot of time checking looms, making reports or being otherwise occupied in the office, wouldn't it be better to delegate this kind of work to some good clerk, who could probably do it better than you anyway, and devote a little more time as an over*seer?* In this way you will *see* much that is going on and can nip a lot of bad work in the bud.

Oiling is of much importance. Cleaning, sweeping, filling fire-buckets come in for their share of attention by the overseer, the second hands and the section men. But these tasks should be performed, according to planned schedules, by lower-paid employees, under the supervision of the key men.

The matter of ordering and checking supplies, a detail often overlooked, might easily form the subject for a complete article. But by all means be certain that the person who does the ordering for the mill understands just what is wanted, then immediately upon arrival of the goods check them carefully. Some mills require the foreman for whose department the supplies were ordered to note on the invoice that the goods are O. K.

Too many supervisors clutter up their lives with a mass of useless trifles while matters of importance are neglected. They think they are running their jobs according to system. What they need to do is to distinguish between trifles and necessary details, and in slack times or rush periods do not let up on the essentials.

TEX. (GA.)

Important Rule

ONE OF the most valuable rules in the cotton mill is $\frac{\text{Yards} \times 8\frac{1}{3}}{\text{Weight in grains}} = \text{yarn number}$. From this equation may be taken $\frac{\text{Yards} \times 8\frac{1}{3}}{\text{Yarn number}} = \text{weight in grains}$. Also by transposition we get, yards $= \frac{\text{Weight in grains} \times \text{yarn number}}{8\frac{1}{3}}$. This simple rule will figure most yarn calculations evolved in the mill.

Need for Organized Personnel Department in Textile Mills

(Continued from page 59.)

tion of the right person to head the program. The person selected should be a man who has had business training and who has intelligence, sympathy and understanding in dealing with people. He should be a man who is deeply interested in the company and its objectives as well as in the welfare and happiness of the employees with whom he is to be associated.

As to securing the proper man to handle this function, there are several sources. There may be within the organization itself some man who is fitted by experience and training to develop into a personnel executive. It may be that this man has had no actual experience in the field of personnel administration, but some of his activities and duties in the past may seem to qualify him as a potential leader in this phase of work. A man of this type, if selected, should certainly make an intensive study of the technique and practices of personnel administration before actually assuming his new responsibilities. This may be done by taking special courses, reading books or articles on personnel administration and by visiting firms that already have well established personnel activities.

Young college graduates who have studied personnel administration in school are often available for openings of this kind. Most men of this type have had very little, if any, actual experience in dealing with practical situations, but the right man should develop into a useful personnel director if given the opportunity and proper guidance.

To find a man with the necessary background of training and experience, it may be desirable to go to some other industrial organization for him. If the right type of man is available from this source, he should be able to render splendid assistance in working out the personnel policy and program and in helping to get the department going in the right way and in the shortest possible time.

In any case, the textile executive who is interested in developing an organized personnel department can always get help from other members of his own and other industries who have had experience in this field. Any company having an organized activity of this kind is usually glad to furnish information and help to other firms desiring to establish a similar department.

I believe a properly organized personnel department, accorded full and fair recognition and headed by a man well fitted for his work, can actually more than pay its way and can help management and employees to work together more harmoniously and profitably than could be the case without such specialized activity.

Huge Crowd Attends Greenville Meeting of Southern Textile Association

(Continued from page 65)

mills always, but where the fabric is made on dobbies it was pointed out that harness sheave must be in good condition, the harness must be set accurately, the shuttle must go into the shed straight, and jam-up loom fixing must be had. If only an occasional cut of cloth is discovered with harness skips the trouble will likely be mechanical, but if there proves to be a regular epidemic of them, then the trouble may be traced to the slasher room. Mr. Franks has remedied this trouble in his plant by drawing-in differently on the drop wires. Instead of using the straight 1-2-3-4 draw, he draws in two drop wires in the same line and then two more. This gives the ends a larger openin gat the stop motion girt. If an end is crossed, it is sure to give trouble, he explained. Mr. Franks reeds three ends per dent, making 136 sley broadcloth on a 4-harness cam loom. The question arose, which is better, to reed three or four ends per dent. Some were in favor of one method and some in favor of the other.

What are the factors that cause pairing of picks in light sley goods? was the eighth question. Some of the causes of this defect were given as improper harness setting, harness not divided correctly, lost motion in the drive arm, slackners and jumpers not adjusted properly, etc.

In a discussion of the amount of size applied at the slasher, George Moore, Whitney (S. C.) Manufacturing Company, reported that on 64x60, 5.35 goods, 12½ per cent size is added to the warp. He makes a test every week to see that the amount of size applied does not vary. W. W. Cobb said that the amount of size added depends on how much trouble the weaver wants to give the spinner, meaning that the counts could be changed and compensated for at the slasher. He considers 8½ to 9 per cent as the amount to give good weaving, and that when from 12 to 15 per cent is added the spinner will suffer. He commented that "You can't weave size, much of it is swept out of the room".

The last weaving question was on changing from the 7⅜-inch quill to the 8-inch quill in the shuttle, what experience has been had as to the number of pieces caused by the 8-inch quills. Mr. Cobb of Cateechee has made this change and has not experienced any more pieces than formerly. He believes other things such as the shuttle spring enter into the number of pieces made, and is also more careful now about piecing up; he does not use the feeler on his goods. A member from the Victor-Monaghan company has changed from the 7⅜-inch quill to the 8-inch quill and had to change the width of the shuttle as well as the length. He is using the off-center shuttle and is finding it satisfactory. The lay-end on the battery side of the loom was changed, but the same binders are used on both hands of the loom. Another man had changed the lay and the binder on the battery end. One man who had made the change reported no difference in the number of re-fills (pieces) after the change—so long as the shuttle spring was doing its work properly.

Spinning

Joe C. Cobb, general chairman of this division and chairman of the board of governors of the Southern Textile Association, led the discussion on spinning. There were only four questions to be taken up. The first was *Using two-process roving in card room and running single roving in spinning, what would you consider to be conservative draft when making 30s to 40s yarn from 1 1/32-inch staple cotton?* W. W. Cobb said that he is running a draft of 11 on filling and 13 on warp. He considers these too long for drafts and prefers a draft of about 9½ or 10 on filling and 12 on warp. He runs three processes in the card room and single creel in the spinning on filling and two processes of roving and double in the creel on warp. Where two processes are to be used in the card room he recommends long draft spinning be used also. His present set-up is to make a 50-grain sliver, running it into a .75 hank on the slubber, single it on the warp speeders and double this (4.50 hank roving) in the spinning making 30s warp. For filling he uses three processes of carding making a 3.60 hank roving and using single in the spinning. Mr. Cooper, Orr Cotton Mills, Anderson, S. C., makes 30½s warp from 2 hank

roving with a draft of 16 and is securing satisfactory results. On filling he runs 2.10 hank single creel and makes 42s and 43s. This is on such constructions as 68x72, 64x60, 60x48, and 80x60, using 1 1/32-inch cotton. Chiquola Manufacturing Company, as reported by Mr. Thompson, has long draft spinning and makes 2 hank roving which is run single in the creel on 30s warp. Mr. Morton of the American Spinning Company averred that on short draft spinning a draft of 12 is good on warp and not over 14 on filling. On long draft spinning a draft of 18 or 19 proves satisfactory when making 30s from one-inch cotton.

The second spinning question was *Do you consider single roving in spinning as good as double roving making 30s to 40s yarn?* One man considered single roving satisfactory on filling but not on warp. Another thought that double roving produces the best results because if one of the ends breaks, or is uneven, the other will compensate for this. Single roving will show up in the cloth when a thin place is caused in the spinning, was his opinion. Still another could see little difference in the two when long draft systems are used. Double roving, theoretically, will give the more even yarn. He is using both 3 hank double and 2 hank single, and one shows up as well as the other.

Type of Spinning Tape

A discussion of basket weave and herringbone weave, light and heavy tape, and the method of fastening it followed. Mr. Morton prefers the herringbone weave because it does not ravel at the ends as much as the basket weave, but he has run no test on the weight of the tape. Mr. Hammond reported using all types of tape, the medium weight lasting 11.6 months. He is now trying the light weight tape and is keeping records on the saving made by its use. Already he has found a great saving in power by its use. On a 14-hour test there proved to be a 21.52 per cent saving in power on 40s filling. The test on his warp frames showed a saving of 18.57 per cent in power with the light weight tape. He sews his tape with regular thread made for this purpose, making no change in either the thread or needle when using the light weight tape. He quoted a saving in power using the lighter tape and said that he had made another test three months later and there was the same saving, showing that the saving in power does not decrease with the age of the tapes. However, the new tape has a higher initial price.

A discussion on the length of time required to break in new rings and the life of travelers followed. Mr. Thompson considered the length of time required to break in new rings depends upon the spindle speed and yarn number. On 30s warp he thought it should take 5 or 6 months to break in the new rings. He has 1⅞-inch rings with a spindle speed of 10,000 r.p.m. and changes the travelers every two weeks, running 120 hours per week. Another man also considered the speed of the frame the dominant factor in length of time to break in the rings, giving 30 days as the time required. On 1¾-inch ring with a spindle speed of 10,140 r.p.m. he changes his travelers every three weeks running 120 hours a week. In breaking in the rings, Mr. Morton first changes the travelers every day for a week, then every other day, and so on until the end of 4 weeks the travelers are changed every week; this is on a 1¾-inch ring making 10,250 r.p.m. John Lockman, Lockhart, S. C., said much depends on the rings, he himself having seen rings that never were broken in. In starting up new rings he changes travelers every 16 hours for two weeks and then every three days for three or four weeks and finally every 10 days. He uses cocoanut oil to grease his rings when breaking them in. This is on 1 13/16-inch rings making 10,600 r.p.m.

The chairman asked if in starting new frames it is best to plumb spindles with ring rail at top and then run for a few months and re-plumb them, or plumb them well at the beginning. John Lockman said that he plumbs them at top and bottom on starting up and goes back in about three months and plumbs them again. Another man said that he also plumbs them at both the top and bottom before running.

An Old-Timer Says—

(Continued from page 93.)

make the head of the screw tight against the leather hold-up strap. The result is that each time the loom picks the hold-up strap moves or slips on the screw and it is a mechanical fact that where anything, it matters not whether it is leather, wood, iron, steel, or any other material, moves in contact with anything, that creates friction, and where there is friction there is wear, it matters not how hard the material is.

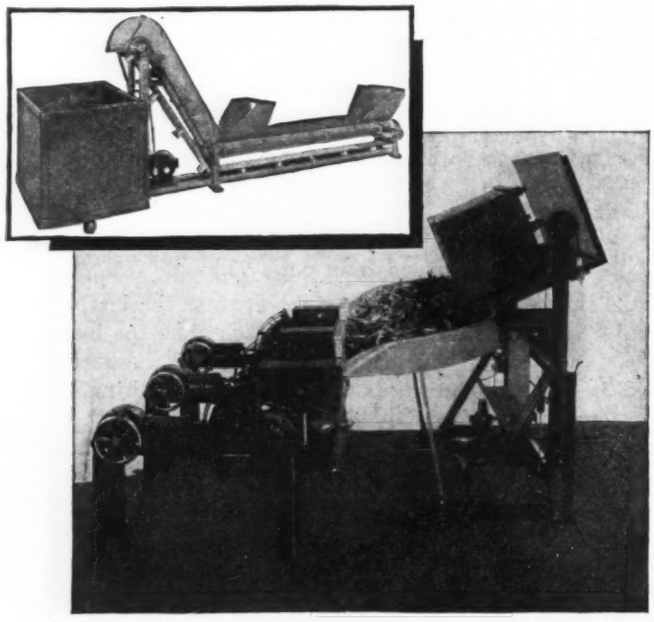
The holes in the hold-up strap, which the screw goes through, wear with each pick; they get larger and larger, finally wearing entirely through and the lug strap falls down, the loom bangs off and the weaver raises the flag. Now if the fixer had taken a little more care; if he had just turned the screw, which goes through the hold-up strap, one or two more turns so the head of the screw would be tight against the hold-up strap, then there would have been no wear where the screw goes through and the hold-up strap would have lasted practically indefinitely.

You see, JIM, that one or two more turns on the wood screw which fastens the hold-up strap to the picker stick would have saved that job on the loom. In other words, if I put my hold-up strap on correctly and the other section man fails to turn the wood screw enough to make the head of the screw tight against the leather hold-up strap, then he has to go back to the loom when the screw holes in the hold-up strap wear out, while I stand at my work bench and watch him work—and my loom continues to make cloth while his loom is stopped for a flag. That is where the pleasure of running a section comes in, JIM, and I don't believe there are many jobs similar to that on a card.

In looking at hold-up straps in the average weave room you will sometimes see a screw sticking in the picker stick that is twice as large as is necessary, in fact, so large that if it were run up tight against the hold-up strap it would split the picker stick. Yes, I have seen picker sticks split or weakened by a screw which is too large; then, the section man not only has at least a 30-minute job, but the cost of a new picker stick and the loss of production while the stick is being installed.

(Old-Timer's discussion of this subject will be continued in the next issue of COTTON. We have read the entire conversation, and can promise that in its entirety it will provide a stimulating and encouraging line of thought. So be sure to pick up next month where we are leaving off here.—The Editors.)

Direct current motors and generators are almost identical in mechanical design, but due to the electrical design, they operate most efficiently for the service which they were originally intended.—*E. M. C. Fairbanks-Morse.*



The Efficient

Bobbin Cleaning System

THE TERRELL SYSTEM for cleaning waste from filling bobbins is based upon the principle that efficiency can only be accomplished by the *elimination of waste.*

THE TYPE K BOBBIN STRIPPER, the main unit, cleans 100 to 120 bobbins a minute, with no damage to the bobbins. The second unit, the BOBBIN BOX HOIST, lifts and dumps large boxes of uncleaned bobbins onto the hopper of the Type K machine, and the third unit, THE BOBBIN CONVEYOR, carries the cleaned bobbins away from the Type K machine and deposits them in large boxes, ready for use again. *The complete job is done quickly, easily, efficiently. No wasted time, materials, effort.*

Proof of the efficiency is evidenced in the savings obtained through use of this Terrell equipment, savings that are large enough to pay for it, often within 12 to 18 months. Write for catalog now.

The Type K bobbin stripping machine can be used alone or with either or both of the other two units

See Also Textile World Year Book and Catalog

the new* TYPE K *Bobbin Stripper

The Terrell Machine Co., Inc.

1200 North Church Street
CHARLOTTE, NORTH CAROLINA

MR. LUTHER PILLING, Danielson, Connecticut, *Representative for N. Y., N. J., Pa., New England States, and Canada*

GEO. THOMAS & CO., LTD., *Manchester, England, European Agents*

Compare

THIS ECONOMY

● Final performance proves the economy of any bearing bronze. Long, trouble-free operation—uninterrupted bearing life are possible only with quality bronze. Quality in Bronze is a matter of selecting the CORRECT alloy.

S.A.E. 64—Copper 80%; Tin 10%; Lead 10%—has definitely remained the favorite alloy of maintenance men and engineers for more than 60 years. It combines, in the correct proportion, the necessary elements to insure genuine bearing performance.

Johnson UNIVERSAL Bronze gives you this feature—plus additional economies. Complete machining eliminates all undersurface defects—assures concentricity and saves 25% in weight.

Now you order bearing bronze according to the FINISHED size. Only a 1/64" cut is necessary to bring to size.

Anyway you compare it, Johnson UNIVERSAL Bronze is the most economical, most satisfactory bearing bronze available. Try it on your next application. Convince yourself that it represents the best buy in Bar Bronze.

JOHNSON BRONZE

530 S. MILL STREET · NEW CASTLE, PA.

Sleeve BEARING HEADQUARTERS

. . . HELPFUL BOOKLETS FREE. . .

Here is presented an important service used every month by hundreds of COTTON readers. The listings explain themselves. The Manuals, Reference Books and Catalogs, containing information of unusual value in mill construction and operation, will be sent you without obligation. Read through the list carefully. Then simply fill in on the coupon the number of those which interest you, and mail it to COTTON.

This service is for men engaged in textile manufacturing only. Requests received from those not in the industry cannot be handled.

Advertisers in this Issue Offer You . . . . . .

204. Modern Shipping Boxes — Illustrating the modern tendency in interior construction and exterior design, this booklet shows how shipping boxes can be made outwardly colorful and attractive. Hinde & Dauch Paper Co., Sandusky, Ohio.

205. The Walker Method—8 page illustrated catalog describing the Walker method of quickly checking the efficiency of machinery. This improved method eliminates the losses resulting from improperly adjusted equipment. Walker Electrical Company, 926 Means St., Atlanta, Ga.

208. Cool Your Motor With Its Own Heat!—A ten page booklet which tells the story of the Parks Automatic Airchanger—a patented combination of forced air-change and direct humidification in balance—all under control of automatic humidity regulators. Ask for Bulletin 1135. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, N. C.

209. Are You Being Kidded About Automatic Humidity Regulation—a direct comparison of the sensitivity, accuracy and reliability of a hygroscopic type of humidity regulator and the Park Spray Psychrostat—the first and only regulator to work on the psychrometric principle. Ask for Bulletin 835. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, North Carolina.

213. Saco-Lowell Cotton Machinery—Twisting—a 36 page illustrated brochure explaining the company's twisters and parts, including the four basic type twisters, features of new construction and general notes on twisting. Production calculations and specifications are included. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

214. Saco-Lowell Cotton Machinery—Spinning—the second edition of a 56-page booklet, illustrated with the company's product and containing valuable charts, production tables and other spinning data. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

216. Cutting Costs with Liquid Caustic Soda—a 72 page hand book packed full of useful information on liquid caustic soda, including unloading and handling properties of caustic soda and its equeous solutions, sampling and analysis. Of practical value to executives, buyers, chemists and operating men. Sent without obligation by writing on your business letterhead to the Mathieson Alkali Works, 60 East 42nd St., New York, N. Y.

217. Diamond Fibre Hollow Ware—32 page booklet and catalog, attractively illustrated, showing various types of boxes, trucks, cans, barrels, baskets and trays of Diamond Fibre Hollow Ware. Of interest to every mill man in solving material handling problems. Free on request. Continental-Diamond Fibre Co., Dept. C, Wilmington, Delaware.

218. Butterworth Electric Guiders—6-page folder describing and illustrating the new Butterworth Electric Cloth Guider. This guider is built on the same principle as the Foxwell Air Guider and is unexcelled for fast, accurate guiding. H. W. Butterworth & Sons Co., Philadelphia, Pa.

219. My Strap-Book by Doc Steelstrap—16 page illustrated catalog describing the hundreds of ways that Acme steel strap can be used to advantage in connection with paper boxes and wraps in making safe, economical shipping boxes. The strap-book will convince you that Doc Steelstrap and his assistants do a thorough job of the packing and shipping business. Acme Steel Co., Chicago, Ill.

222. Onyx Processing and Finishing Compounds"—A new 56 page catalog describing the entire line of processing and finishing compounds and covering every process on all types of fabrics. Also included is a comprehensive article on the subject, "The Importance of Accurate pH Control." Onyx Oil and Chemical Company, 15 Exchange Place, Jersey City, New Jersey.

223. Alloyed Iron in Southern Industrial Fields—16 page illustrated catalog dealing with the properties available in modern cast irons. International Nickel Co., 67 Wall St., New York, N. Y.

224. "Tank Talk"—Sixteen page booklet of illustrations showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. R. D. Cole Manufacturing Company, Newnan, Georgia.

227. Stainless Steel Valves and Pipe Fittings—complete illustrated catalog, together with price list, covering stainless steel valves and pipe fittings, giving all dimensions, data, etc. The Cooper Alloy Foundry Co., 150 Broadway, Elizabeth, N. J.

228. Solutions for Your Problems—20-page illustrated booklet containing valuable information on the scouring and processing of wool and other fibres. Detergent Products Corp., Atlanta, Ga.

231. Spindle Tape Lacing Equipment — Illustrated folder describing the new Clipper spinning tape lacing equipment, gives vibration chart, prices, specifications and other valuable information. Clipper Belt Lacer Co., Grand Rapids, Mich.

232. Condenser Tape Lacing Equipment—Describing in detail the new Clipper condenser tape lacing equipment, this folder contains table of decimal equivalents, prices, specifications and illustrations of the lacer, hooks and cutter. Clipper Belt Lacer Co., Grand Rapids, Mich.

233. Catalog No. 22—an attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use. Meese, Inc., Madison, Ind.

234. They Stay Brighter Longer—This interesting illustrated booklet containing facts about Mazda lamps will be sent you free on request. General Electric Company, Dept. 166, Nela Park, Cleveland, Ohio.

235. The Guide—a ready reference book which will prove of great help to textile mill engineers in selecting Valves, Boiler Mountings and Lubricating Devices. Products are grouped by pressure, type and use. The Lunkenheimer Co., Cincinnati, Ohio.

236. Lunkenheimer Catalog—describing and listing the entire Lunkenheimer line of Valves, Water Columns, Water Gauges, Gauge Cocks, Fittings, Unions, Air Nozzles, Lubricators, Oil and Grease Cups, etc. The Lunkenheimer Co., Cincinnati, Ohio.

237. The New Boyce "Rayon" Knotter—This new knotter increases production, eliminates perspiration and body chemical stains and makes clean, uniform knots. Over 2,000 of these new knotters are now in use. Mill Devices Company, Gastonia, N. C.

238. Glorified Light—A 32-page book illustrative of the vital part proper painting plays in scientific lighting and in the reduction of maintenance and production costs. Pittsburgh Plate Glass Co., Pittsburgh, Pa.

240. The New Proctor Automatic Yarn Dryer—6 page illustrated folder describing the new Proctor automatic yarn dryer which has the exclusive new Proctor traveling skein protector. Proctor & Schwartz, Inc., Philadelphia, Pa.

241. Handbook of Building Maintenance—38 page illustrated booklet which is a ready reference for men responsible for the maintenance of textile buildings and structures. Should be on file in engineer's office. Flexrock Co., Philadelphia, Pa.

244. Turbine Pumps—as used for irrigation and all municipal and industrial purposes. A forty-page illustrated and descriptive bulletin furnished free by Pomona Pump Co., Pomona, Calif., or 4301-7 So. Spring Ave., St. Louis, Mo.

245. Design Wheels for Brinton Knitting Machines—16 page illustrated booklet which gives helpful information on design wheels for Brinton knitting machines. A copy of this booklet should be in the hands of every knitter. H. Brinton Co., Philadelphia, Pa.

246. Randall Pillow Blocks—A convenient 24 page pocket size catalog giving detailed information on types, sizes, uses, construction and prices. Randall Graphite Products Corporation, Chicago, Ill.

247. Randall Graphite Bronze Bearings—a handy 24 page pocket size catalog listing the complete range of Randall bushings. The inside diameter is thumb indexed for convenience. Randall Graphite Products Corporation, Chicago, Ill.

248. Reeds, Positive Expansion Comb and Reed Supplies—6-page pamphlet describing various types of reeds, spring and positive exansion combs for warpers, beamers and slashers, the Scotch Hook Reed, crossing reeds, and various supplies used in connection with working on reeds. Greensboro Loom Reed Company, Greensboro, N. C.

249. Wood Decay—Its Causes and Prevention—4 page illustrated folder describing the causes of wood decay and methods of prevention. Reilly Tar & Chemical Corporation, Indianapolis, Ind.

250. Termites—This valuable booklet which deals with the destructiveness of the termite and the methods of extermination should be in the hands of every textile mill man. Reilly Tar & Chemical Corporation, Indianapolis, Ind.

251. Brown Thermometers and Pressure Gauges—New 71 page book illustrating and describing the Brown indicating, recording and controlling thermometers and gauges. Explaining their many advantages to the textile plant, this valuable book should be in the possession of every mill executive and department head. The Brown Instrument Co., Philadelphia, Pa.

253. Brown Air-O-Line Controllers—This booklet will prove invaluable to the men in charge of dyeing, finishing and slashing, as well as the textile executive. 32 illustrated pages describing the various Brown Controllers. The Brown Instrument Co., Philadelphia, Pa.

254. Fade-Ometer—A laboratory testing device for determining the color fastness or fastness to light of dyes and dyed textiles. Fully described in a 22-page bulletin containing complete color test data. Atlas Electric Devices Co., 387 West Superior St., Chicago, Ill.

255. Launder-Ometer—A laboratory testing device for determining fading, shrinking, staining and mechanical action of dyed textiles due to laundering, also detergent tests, dry cleaning tests, vat and sulphur dye tests. Completely described in 16-page bulletin. Atlas Electric Devices Company, Chicago, Illinois.

256. Self-Cleaning Textile Motors—4 page illustrated folder describing the pioneer Self-Cleaning Textile Motor designed exclusively for the Textile industry. The Louis Allis Company, Milwaukee, Wisconsin.

257. Loom Motors—This 4-page folder describes the Louis Allis Loom Motor, which is designed and built from the ground up as a sturdy, smooth, powerful motor necessary for successful performance with modern high-speed looms. The Louis Allis Company, Milwaukee, Wisc.

258. Automatic Overhead Cleaner for Spinning, Winding, Warping and Twisting — 24 page booklet showing the new American MonoRail Automatic Cleaner in operation on MonoRail track circuit over Spinning, Warping, Winding, Twisting, etc. This cleaner incorporates a new scientifically designed blower producing a whirling column of air directed and controlled so that it prevents accumulation of fly with no harm to roving. The American MonoRail Company, Cleveland, Ohio.

259. Cotton Conditioning with Texspray Compound—18 page booklet describing the Texspray method of cotton conditioning. It has been proven that this method will save money, increase production, increase flexibility of fibre, eliminate static and reduce fly and dust. The Texas Company, New York, N. Y.

260. Lubrication—This attractive booklet contains valuable and interesting articles on loom lubrication and also on spinning design and the function of spindle oils. The Texas Company, New York, N. Y.

261. The Brown Moist-O-Graph—16 page booklet describing the Brown Moist-O-Graph which measures, records and controls the moisture content of cotton warp yarns. The Brown Instrument Company, Philadelphia, Pa.

262. Maintenance Paints and Cleaners—16 page illustrated catalog describing complete line of paint and surface maintenance products for industrial use. Full coverage and application data given. Handy application chart shows proper products for each surface and condition. The Skybryte Co., Cleveland, Ohio.

263. Gastonia Brushes—New catalog and price list showing the complete line of brushes for the textile mill. Gastonia Brush Co., Gastonia, N. C.

264. American Pressed Steel Trucks—16 page illustrated catalog describing the American line of trucks and industrial truck wheels. American Pulley Co., Philadelphia, Pa.

265. American Tension Control Motor Base—Illustrates and describes the new tension control motor base and explains its many distinct advantages. Complete with charts and tables. American Pulley Co., Philadelphia, Pa.

266. Energy Drive—The Latest Improvement in the Art of Weaving—7-page illustrated booklet describing the sensational new energy drive for looms. Complete with specifications and actual installation results. Power Transmission Council, Inc., Boston, Massachusetts.

267. Monitor Catalog—This catalog not only contains illustrations and descriptions of standard controllers, starters and accessories but also useful tables and engineering data. Monitor Controller Co., Baltimore, Md.

268. Factoring and Financing—Illustrated booklet which outlines the functions of factoring in the textile industry. Textile Banking Company, New York, New York.

269. Stainless Steel Equipment for the Dyeing and Textile Industry—Attractive four-page folder describing the Blickman line of dyeing equipment. S. Blickman, Inc., Weehawken, N. J.

271. The New American Adjustable Diameter Wedgebelt Pulleys—Illustrated leaflet describing the American adjustable diameter sheaves designed to produce the best performance in all types of V-belt driven textile machinery. American Pulley Co., Philadelphia, Pa.

272. Where to Buy Monel Metal Textile Equipment—Attractive booklet which lists the names and addresses of experienced fabricators of Monel Metal equipment for the textile mill. The International Nickel Company, Inc., 67 Wall St., New York, N. Y.

273. Debevoise Maintenance Paints—38-page illustrated manual describing and illustrating the Debevoise line of paints for industrial use. The manual features a complete line of paints for the interior and exterior of textile plants and mill villages. The Debevoise Company, 968 Grand St., Brooklyn, N. Y.

11. Whitinsville Rings—16 page illustrated booklet describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co., Whitinsville, Mass.

25. "Lupogum" and "Monopole Oil"—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

29. Continuous Card Stripper—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

30. Lubrication of Textile Machinery—32 pages illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

38. Sleaziness in Full Fashioned Knitting—Illustrated survey with samples of fabric showing causes of sleaziness and methods to be employed in eliminating it.—By Textile Machine Works, Reading, Pa. (This company also issues parts catalog for Reading full fashioned machines with general information on subject of full fashioned knitting.)

55. Interpretation of Analysis for the Layman—An eight page booklet explaining what the various items used in fatty oil and sulfonated oil analysis mean, enabling the ordinary textile man without chemical education to interpret the various chemical analyses. National Oil Products Co., Harrison, N. J.

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts, showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhatta Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

64. SKF in the Cotton Mills—A twelve page booklet showing the advantages in power consumption, increased production, savings in lubrication, increased yarn breakage strength to be secured through roller bearing spindles. SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

CONTINUED ON NEXT PAGE

HELPFUL BOOKLETS FREE...

Continued from Page 107

65. Bulletin No. 500. Cooper-Hewitt Industrial Illumination—booklet explaining in detail the importance of good lighting and the necessity of proper quality as well as proper quantity of light. General Electric Vapor Lamp Co., Hoboken, N. J.

70. Fafnir Ball Bearings for One Process Pickers—outlining the advantages of ball bearings in guaranteeing smooth, accurate motion, particularly on eveners, as well as uninterrupted production, ease of operation and cleanliness of bearing units throughout the one-process pickers. Fafnir Bearing Company, New Britain, Conn.

72. The Merrow Butted Seam—A 16-page booklet defining and illustrating the Butted seam, describing its properties and outlining some of the advantages to be gained by its use in Textile fabrics. The Merrow Machine Co., Hartford, Conn.

77. Bulletin S 200—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

94. New Development by Onyx—Eight page booklet describing and giving uses of new developments in sulphonated aliphatic compounds . . . called Aliphatic Ester Sulphate and Glyceryl Sulphates. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

106. Cotton System Warp Sizing on Multiple Cylinder Machines—a folder showing the advantages of this type of machine in making warps of acetate and other synthetic yarns and spun silk. Charles B. Johnson, Paterson, N. J.

107. Complete Information on Alemite Lubrication—Showing how costs can be reduced through proper lubrication. Alemite Corp., 1828 Diversey Blvd., Chicago, Ill.

109. Some Properties of Starch and Dextrine—Explaining certain fundamental properties of starch and its derivatives and their action when heated and agitated. Stein, Hall & Co., 285 Madison Ave., New York City, N. Y.

110. 3-In-One Oil for Industrial Uses—showing the many industrial uses and advantages of this oil. A. S. Boyle Co., 1934 Dana St., Cincinnati, Ohio.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch, and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Roller Bearing Co., P. O. Box 476, Newark, N. J.

119. The World's Finest Sewing Machines—a condensed catalog giving details of the various Willcox & Gibbs sewing machine. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York, N. Y.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

121. Engineered Packages for the Textile, Dry-Goods and Apparel Industries—Showing the savings to be made through the use of properly engineered packages of corrugated fibre in the shipping of yarn, woven and knitted products. Hinde & Dauch Paper Co., Sandusky, Ohio.

122. Water Filters and Filtration Equipment—Containing complete description of the chemical processes involved in the coagulation and precipitation of foreign matter, the removal of iron, oil, manganese, from water and the production of clean water suitable for the textile industry, together with tables of specifications for standard filers, and information showing the extra profits to be made by the mill through reduction in costs and process difficulties, through removal of undesirable impurities in water. Permutit Company, 330 W. 42nd St., New York, New York.

128. Houghton's Hand Book for the Hosiery Dyer—This book contains the result of 69 years of experience in research and development of processing materials for the textile industries, together with a wealth of other data useful to every hosiery dyer. E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

130. Three New Textile Scouring Agents—This 32-page book gives many valuable formulas for the use of Houghton's Wonder Powder—a new type of colloidal detergent—in fulling, scouring and finishing nearly all types of woven and knit goods. Also contains several pages of valuable reference and conversion tables. E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

134. STA-PUT Lubricants—A brief description of an entirely new line of tough film lubricants which not only gives greater protection to bearings but eliminates oil drip and reduces lubrication costs. STA-PUT Lubricants are made in grades to suit all types of textile machinery. E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

139. Textile Detergents—Theory of the use of alkalis and control of pH—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergent in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

141. V-Belt Engineering Data Book—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. Manhattan Rubber Manufacturing Div. of Raybestos-Manhattan, Inc., Passaic, N. J.

152. Plant Checkup List—Crane Co., 836 South Michigan Ave., Chicago, Ill.

154. Johnson Bronze Bulletin No. 340—showing over 600 sizes Johnson general purpose bronze bushings. Johnson Bronze Co., New Castle, Pa.

155. Link-Belt Catalog 1574 on the P. I. V. Gear—giving details of this positive variable speed control. Link-Belt Co., 307 N. Michigan Ave., Chicago, Illinois.

156. Link-Belt Engineering Data Book No. 125—showing features and giving engineering data on Link-Belt silent chain drive. Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill.

157. Grading Rules and Complete Specifications for Laying and Finishing Maple Floors—Maple Flooring Manufacturers Association, 1794 McCormick Bldg., Chicago, Ill.

163. Roto-Koner—Bulletin describing the new No. 44 Universal Winder, known as the Roto-Koner for winding knitting yarns, which has many new and distinctive features. Universal Winding Company, 95 South St., Boston, Mass.

164. Johnson Rotary Pressure Joints—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. The Johnson Corp., Three Rivers, Mich.

166. Precision Winding—An interesting 30 page booklet on rayon yarns and winding, designed for weaving and finishing mills using silk and rayon. Universal Winding Co., 95 South St., Boston, Mass.

168. The Tube-Tex for Tubular Knit Goods—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste. H. W. Butterworth & Sons Co., York and Cedar Sts., Philadelphia, Pa.

170. Gates Textile Accessories—showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions. The Gates Rubber Company, Denver, Colo.

171. Design of V-Belt Drives—48 page booklet full of valuable tables and data showing the type, number and design of V-belts that will give the greatest efficiency on each particular drive. The Gates Rubber Company, Denver, Colorado.

176. Sonoco Products—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc. Sonoco Products Co., Hartsville, S. C.

177. New Advances in Loom Equipment—12-page booklet describing discoveries and advances which loom manufacturers have made in keeping pace with these discoveries down to the present time—non-technical information, amply illustrated. Emmons Loom Harness Co., Lawrence, Mass.

180. These Extra Cushion Cork Cots Offer Six New Advantages—a 6-page folder which tells the story of the new Armstrong Extra Cushion Seamless Cork Cot from the viewpoint of the mill man. The folder describes HOW the new cot is of advantage to mills spinning cotton yarn; WHY it is better, and something about the method of manufacture, and also gives PROOF in the form of some tests that have been made with this new roll covering material. Armstrong Cork Products Co., Textile Division, 960 Arch St., Lancaster, Pa.

183. Schieren-izing—describing leather belt manufacture from the selection of hides through the various processes to the final tests, also showing illustrations of belts with unusually long service lives. Chas. A. Schieren Co., 31 Ferry St., New York, New York.

184. Speed Control Handbook T-35—new reference book on variable speed control, said to be the most complete and helpful book on this subject ever published, 112 pages and more than 200 illustrations of interest to every production executive, purchasing agent, superintendent, overseer and master mechanic. Reeves Pulley Co., Columbus, Ind.

185. Dulux—The White Finish That Stays White—New book describing the new ten-point finish for factory walls and ceilings, the finish that stays whiter, stays cleaner and stands repeated washings. E. I. duPont de Nemours & Co., Finishes Division, Wilmington, Del.

186. F-7 Feeder Bulletin — Describing the better blending that is secured and the important cleaning operation that is added by using F-7 feeders in place of bale breakers. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

187. The Wildman Single-Head Full-Fashioned Hosiery Machine—Literature on request from the Wildman Mfg. Co., Full Fashioned Division, Norristown, Pa.

188. Form 374—This form enables you to gather your own cost data on your sewing machines and determine whether new Union Special Machines will show big savings. Furnished free by Union Special Machine Co., 400 No. Franklin St., Chicago, Ill.

190. Warp Conditioning Units for Synthetic Yarn Slasher—booklet giving full details will be sent free to mill men who write on their company letterhead. Chas. B. Johnson Co., Paterson, N. J.

191. The Bahnson Humidifier—bulletin describing Bahnson Humiduct system which combines humidifying, heating, ventilating and air conditioning all in one unit, will be sent free on request. The Bahson Co., Winston-Salem, N. C.

192. Wood Tanks for Every Purpose—100 page illustrated catalog showing the advantages and lasting qualities of wooden tanks. Rubber-lined tanks for dyeing and other uses in the mill are illustrated and discussed in detail. Hauser-Stander Tank Co., Ammen Ave. and Spring Grove Ave., Cincinnati, Ohio.

197. Extra Life for Chain Link Fence—A folder telling about Bethanized Wire and explaining its advantages for mill and factory protection. Anchor Post Fence Co., Eastern Ave. and Kane St., Baltimore, Md.

198. The Perfect Loom Let-Off—Folder pointing out the advantages of the new asbestos friction loom let-off and giving specifications and price list. Fiber Mfg. Co., Newton, N. C.

COTTON, Grant Bldg., Atlanta, Ga.

Please send me, without obligation, free booklets described in the November issue of COTTON.

Fill in here numbers you select from both pages.....

.....

Name .....

Firm name..... Position.....

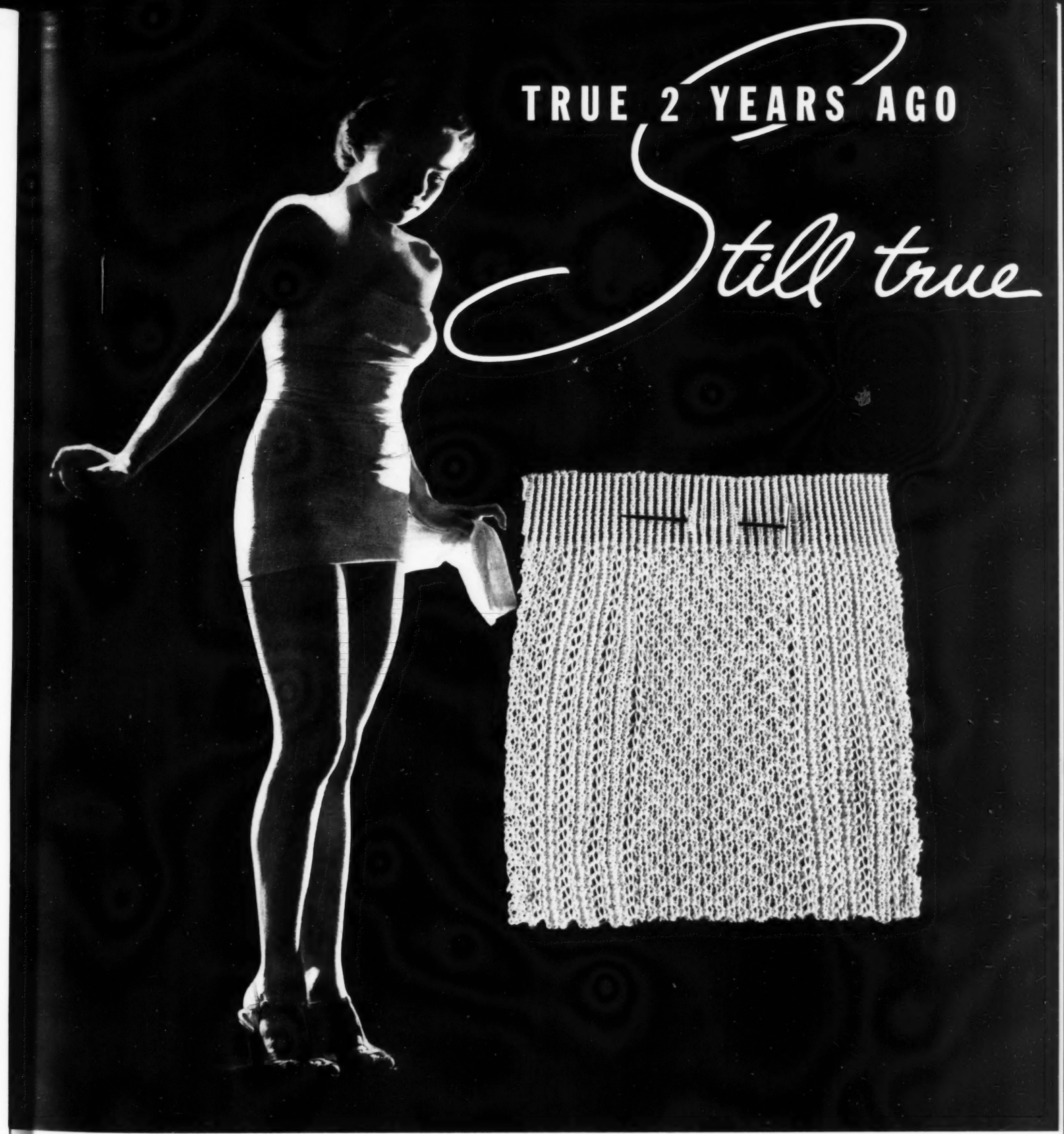
Street .....

City & State.....

List Items You Want and Tear Out and Mail Coupon Now!

●

Please be sure to fill in your Firm's Name and your Position on the Coupon. This service cannot be extended to you unless this information is furnished.



TWO years ago, when we introduced the AUTOMATIC DOUBLE BUTT TUCK MACHINE, we suggested that there would soon be a big demand for the high quality merchandise it produces. The fact that mills now making this type of fabric are the busiest proves the soundness of our forecast. Today on the new Automatic Double Butt Tuck and Vertical Float Machine (double butt tuck and cylinder needle selection) a still wider range of patterns can be achieved with the same speed and economy —and the demand is increasing.

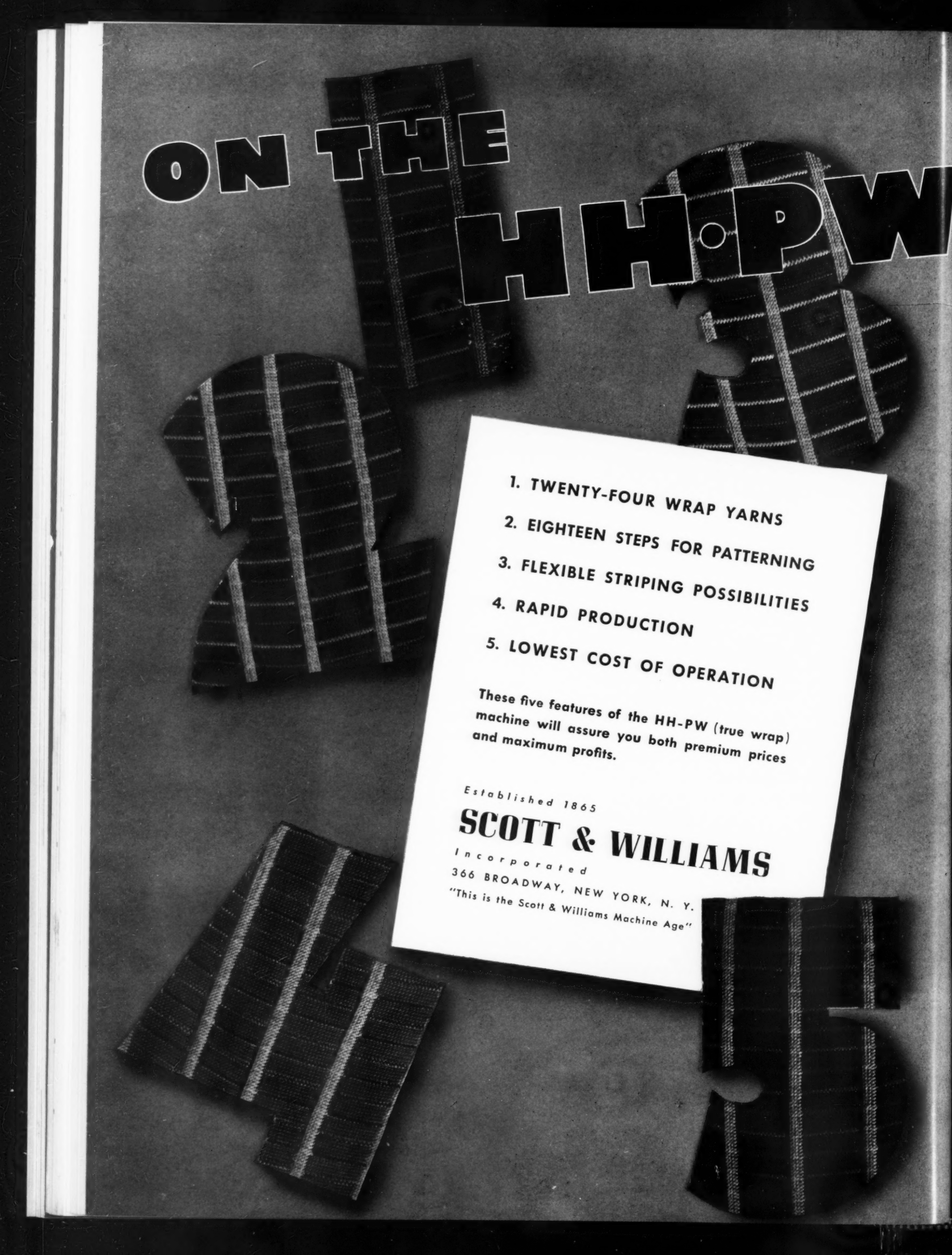
ESTABLISHED 1865

SCOTT & WILLIAMS

INCORPORATED

366 BROADWAY, NEW YORK, N. Y.

"THIS IS THE SCOTT & WILLIAMS MACHINE AGE"


ON THE
HH-PW
1. TWENTY-FOUR WRAP YARNS
2. EIGHTEEN STEPS FOR PATTERNING
3. FLEXIBLE STRIPING POSSIBILITIES
4. RAPID PRODUCTION
5. LOWEST COST OF OPERATION
These five features of the HH-PW (true wrap) machine will assure you both premium prices and maximum profits.
Established 1865
SCOTT & WILLIAMS
Incorporated
366 BROADWAY, NEW YORK, N. Y.
"This is the Scott & Williams Machine Age"

KNITTING SECTION

Many Representatives Attend

Hosiery Industry Conference

THE TWO-DAY Hosiery Industry Conference held at the Waldorf-Astoria, New York City, on October 14 and 15, drew an attendance of more than 300 hosiery manufacturers from all parts of the country, exceeding all expectations in attendance and representation. It, like the preceding one last February, was conducted under the auspices of the National Association of Hosiery Manufacturers, with Earl Constantine, managing director, and W. H. Gosch, president, in charge. The first day was an open session, with several important speakers; the second day was devoted to executive sessions.

At the first-day meeting, President Gosch opened the conference with comments on the current hosiery scene. While admitting the prevailing sentiment of discouragement, he expressed himself as being fundamentally hopeful for the industry, and made a plea for active, complete co-operation in the solution of the industry's problems. He spoke in strong opposition to a possible boycott against Japanese silk, in view of the current sentiment in connection with the Sino-Japanese War. He said "it should be borne in mind that the peculiar natural properties of silk are such as man has not been able to duplicate. As to boycotts, it is inconceivable that our public would forget that raw silk is a commodity of the world. The silk worm has no nationality. Silk speaks but one language —beauty, utility, and fashion-rightness. To boycott raw silk would be uncalled for, because it would work a hardship upon our workers, as well as management of plants in our industry. For all practical purposes, a boycott would not stop the forces against which a boycott would be directed—boycotts never do."

Arthur D. Whiteside, president of Dun & Bradstreet, Inc., addressed the hosiery manufacturers, speaking "off-the-record" on current national and industrial problems.

A discussion on the costing practices of the industry was held, and as a result definite actions were taken to improve the cost methods of the mills.

In a talk on "New Tendencies in Marketing and Distribution", Harold W. Brightman, vice-president of L. Bamberger & Company, and chairman of the merchandising division of the National Retail Dry Goods Association, made a plea against "chiselers" who sell second-grade or second-class merchandise as first quality, and urged proper marking practice. As a result, upon motion of Mr. Constantine, the group voted to set up a special trade practice committee representing every branch of the industry, to study the matter of trade practices under the auspices of the Federal Trade Commission, and to move in the direction of arranging with FTC for a trade practice conference covering this and other matters.

W. H. Gosch, president of the National Association of Hosiery Manufacturers. At the conference Mr. Gosch plead for co-operation in the solution of the industry's problems .

The following statement from Mr. Constantine following the final session summarizes well the entire conference, especially the sessions of the second day which were executive in character:

The Hosiery Industry Conference conducted its discussions of Friday, the second day, in executive sessions limited in attendance to executives of hosiery mills in view of the fact that the subjects to be treated related to operating problems.

During the morning separate seamless and full-fashioned executive conferences were held.

In the seamless conference a report was received from the special committee which was created at the recent meeting of the Southern Hosiery Manufacturers' Association at Asheville, to study and report on the patent situation involving the manufacture of laid-in elastic tops which are manufactured extensively in half-hose and anklets. The committee consists of J. E. Baker, chairman, Baker-Cammack Hosiery Mills; T. E. Jennings, Maurice Mills; Harry Katzenmoyer, Chipman La-Crosse Hosiery Mills; E. E. Whisnant, Whisnant Hosiery Mills. The counsel for the committee, Samuel E. Darby, Jr., presented legal aspects.

No conclusion was arrived at by the conference other than to extend the size of the committee to include three northern seamless manufacturers.

A report was presented at the seamless conference dealing with the experiences to date under the operations of the quota agreement entered into with Japan on cotton and rayon goods. Such report shows that the imports for the first three-quarters of the current year fall short of what would be the pro rata amount of the annual quota by approximately 40,000 dozen pairs, indicating that the agreement is operating satisfac-

torily. The quota agreement permits an annual entry of one and a half million dozen pairs. The portion which would apply theoretically to the first three-quarters of the year would be 1,125,000 dozen pairs. The actual imports amounted to only 1,085,000 dozen pairs.

Discussion was held also on the subject of scattered activities in the seamless branch of the industry in the direction of unionization. In such branch of the industry the number of contracts in effect at present is insignificant and widely scattered as to location.

The full-fashioned conference devoted its discussions to the standards of construction and inspection for ladies' full-fashioned hosiery which have already been approved by the industry at previous conferences. Reports were made as to the progress which has taken place towards inducing manufacturers to adopt the standards, and plans were explained under which full-fashioned manufacturers will be given further opportunity to consider the adoption of the standards between now and January 1, at which time the National Association expects to be in position to make available lists of manufacturers who are conforming to the standards.

The final session of the Hosiery Industry Conference was a general session attended by manufacturers from all branches of the industry and limited to executives of hosiery manufacturing plants.

The principal discussion at the final session was a review of the development which took place during the recent session of Congress in the direction of hours and wages legislation, and a consideration of the likely developments which will take place on such legislation during the special session of Congress which assembles on November 15.

The hosiery industry at a previous hosiery industry conference held in February, 1937, went on record as favoring hours and wages legislation provided it be simple and practical in character and enforced by the established enforcement agencies of the government. This attitude of the industry was presented at the public hearings in Washington during the past summer, and will govern the appearances and activities of the Association in the months ahead. While favoring a floor on wages and a ceiling on hours, and recognizing the necessity of an administrative board to make the law operate, the industry is opposed to vesting in the administrative board powers to fix wages for industries beyond minima or hours beyond maxima. It does not feel that it is safe or desirable to vest in any administrative board powers which in substance would permit them to enter into the field of rate structures. Other anticipated legislative activities were considered but no action taken thereon. Among these were amendments to the excess profits and capital gains tax laws, amendments to anti-trust laws, and amendments to the National Labor Relations Act.

◆◆◆

An Eye on the Knitting Mills

KNIT PRODUCTS COMPANY, Belmont, N. C., will build an addition which will double the capacity of the plant. It will be a two-story and basement structure, containing 20,000 square feet of floor space. W. S. Lee Engineering Company, Charlotte, N. C., drew the plans.

Century Hosiery Mills, Burlington, N. C., have been granted a charter to incorporate with authorized capital stock of $80,000.

May Hosiery Mills, Inc., Burlington, N. C., are building an addition onto the finishing department that will be used primarily for increasing storage space.

Nordham Hosiery Mill, Charlotte, N. C., has installed additional equipment costing approximately $20,000.

Golden Belt Manufacturing Company, Durham, N. C., has asked for bids on the construction of a new office building, to be large enough to accommodate 25 or 30 persons.

Standard Knitting Mills, Knoxville, Tenn., is reported as remodeling a portion of the second floor of the No. 3 mill; this is being done to provide additional office space.

Pacolet Knitting Mill, Lynn, N. C., has installed additional machinery in the newly constructed dye plant, which was destroyed by fire during July.

Concord (N. C.) Knitting Company has installed a water softener, a hot water storage tank, a new Fletcher extractor, and has re-arranged the dyeing equipment to give more efficient results.

Monroe (N. C.) Full-Fashioned Hosiery Company is now in its new building, measuring 105x170 feet.

Columbia (Miss.) Knitting Mills has made an addition which practically doubled the capacity of the plant.

It is reported that T. E. Jennings, hosiery manufacturer of Thomasville, N. C., will head a new company that plans to build a new hosiery mill at Denton, N. C.

Garrou Knitting Mills, Inc., Morganton, N. C., have purchased 6 additional 45-gauge Schubert & Salzer single-unit machines from Alfred Hofmann, Inc.

Parkside Silk Hosiery Company, Clementon, N. J., has purchased several Schubert & Salzer single-unit machines from Alfred Hofmann, Inc.

Machinery is being bought, it is reported, for the new Henderson Hosiery Mill, Hickory, N. C.

Sale Knitting Company, Martinsville, Va., is a new concern which will manufacture underwear.

The Maintenance and Fixing of Full-Fashioned Hosiery Machines

By Arthur J. Cobert

THIS IS the fourth installment of a series of articles on full-fashioned machine maintenance, being prepared especially for COTTON by a competent mill man. The first installment appeared in the July issue and discussed the vertical motion of the needles, the second appeared in the August issue and covered the horizontal motion of the needles, the function of the regulator, etc., the third article ran in September and gave a complete analysis of the catch bar. This discussion is devoted to a description of the formation of the stitches, including the narrowing stitch. The author wi l take up any particular phase of fixing you desire.—The Editors.

Stitch Formation

IN ORDER to cover this branch of the series thoroughly and in such a manner as to give the reader a complete knowledge of the formation of the stitch on a full-fashioned machine, each part assisting in its formation will be explained in the order of importance.

The spring beard type of needle is used for this work owing to its adaptability to the narrowing motion which any other type of needle would not permit and also because of the fine stitch which can be knitted with this needle. Although made so small and thin a mere touch of the finger will break off the beard, it nevertheless will withstand the pressure applied to it several thousand times a day during the course of regular operation without any visible effect. The hook or crimp of the beard is placed there to form a high point which strikes the presser edge, permitting the needle to close sufficiently to allow the loop of the fabric free passage over the beard. The point of the beard during this operation imbeds itself into the groove of the needle, closing it tightly, and springing open after the pressure is removed from the beard, hence the name, spring beard needle. The groove not only allows the beard to close tightly in it, but is made long enough to receive the tip of the narrowing point when the stitch is being slipped on or off the needle during the narrowing motion.

Reason Explained for Use of Sinkers

The function of the sinkers is evident enough, carrying the thread around the needles to form partial loops which in turn are completed by the action of the needles. The sinkers only form a partial loop around every two needles, while the dividers take care of the remaining needles. A little study will show that it is impossible to have a sinker for every needle. Due to their extreme thinness and flexibility, no cam could be devised to push them forward without some auxiliary part to accomplish this. As the sinkers must be actuated individually, a sliding cam motion must be used, necessitating the use of jacks and slur cock, the jacks being heavy enough to withstand the sliding movement of the slur cam while imparting only a vertical thrust to the sinkers, not causing any bending of same. Secondly, the sinker butts must be wide enough to form a substantial edge for the jacks to strike. No fine gauge machine could be constructed having a sinker for every needle when the width of the butt is taken in consideration.

The dividers require no such re-inforcement as the sinkers, for they are operated simultaneously and not individually and remain constantly between the sinkers which form a substantial support for them. They do not require jacks for operation, but are actuated entirely by the catch bar. In dividing the partial loops between every needle, the dividers assist in producing uniform stitches which otherwise could not be accomplished. The use of split dividers will be given in a later article on selvages. The tails of the dividers have a definite duty in preventing the jacks from striking the butts of the dividers. Earlier machines did not have these tails added, consequently where the jackhead was not centered properly or where a bent jack appeared, the result frequently was divider smashes.

The knocking-over bits play an important part in the formation of the stitch in two ways. First, to slip the completed loops off the needles while drawing through and completing new loops. Second, to slip the stitches on to the narrowing points during the narrowing motion. They also form a support for the needles in their action between the sinkers and dividers and narrowing points.

The presser edge is that part of the sinkerhead forming the bottom portion of it in which the lower slots for the sinkers and divers are placed. The front edge between these slots is the actual presser or point where the needle beards are closed by pressing against it.

With a general idea of the function of the above mentioned parts pictured before us, we will now discuss the formation of a row or course of loops as made on a full-fashioned machine. In order to simplify the analysis, let us assume that we have a completed row of loops or stitches on the needles. The starting of fabric on an empty set of needles will be discussed in the next paragraph as explanation of same will be easier once the formation of the loop is understood. We will start with the needles in the uppermost position with a row of loops well down on the shanks, close to the knocking over bits. The catch bar

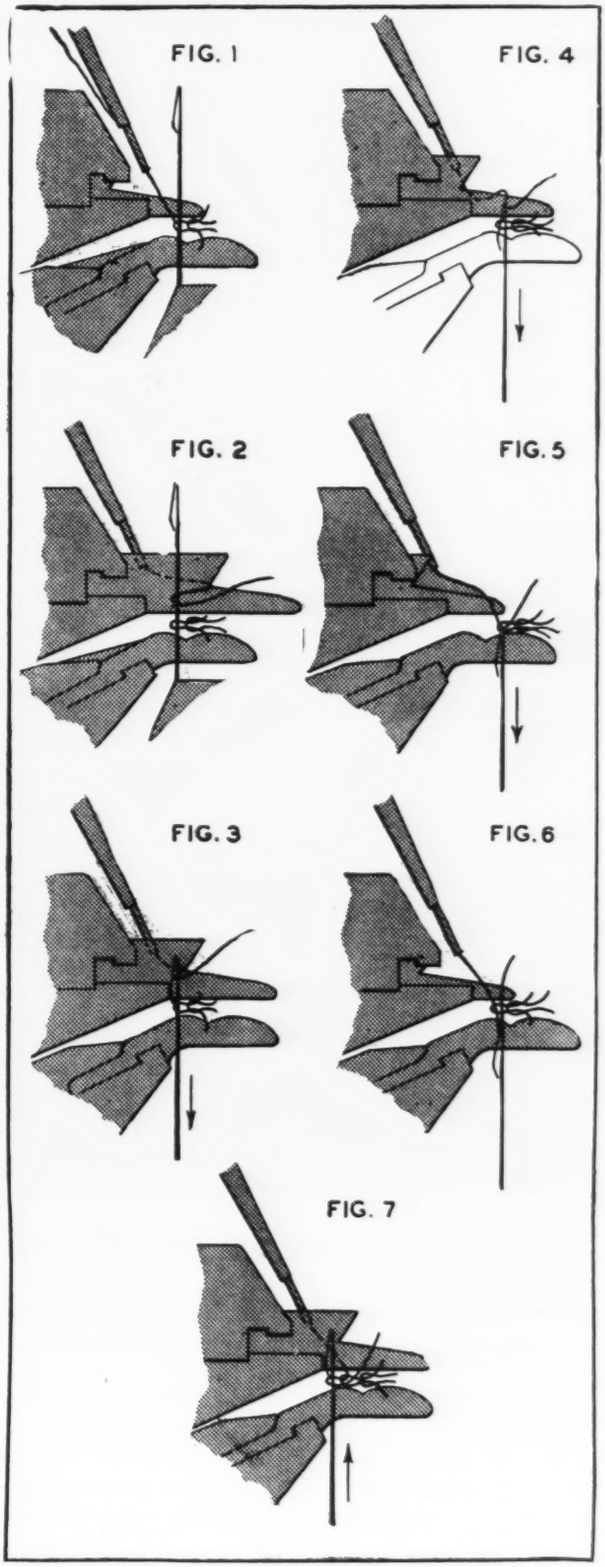
"The best defense is a strong offense"
MILITARY STRATEGY

. . . Because we want to improve our competitive position . . . Because we can no longer afford to waste time trying to squeeze a profit out of obsolete equipment! In production-for-profit, even those full-fashioned knitting machines that were new in 1930-31 are severely handicapped in competition with the speed, balance and flexibility of the new READING high-production Machines of 1937. Write us for facts—and figures.

TEXTILE MACHINE WORKS • READING, PA.

is in the rest position with the tips of the sinkers and dividers protruding a little from between the needles. This is to keep the loops from sliding up the needle shanks, especially at the selvage. (See Fig. I.) As the slur bar starts its motion across the sections, the thread, fed from the carriers, is kinked by the sinkers around every two needles, as the sinkers are actuated forward, forming a partial loop. This continues until the last sinker of each section is forward. (See Fig. 2.) The catch bar then begins to move forward bringing the dividers with it, dividing the partial loops around the remaining needles. Before the catch bar is completely forward, the needles start their movement towards the presser edge. This is to assist in pressing the partial loops uniformly which is vital to an even fabric. Now as the catch bar completes its forward motion and catches the sinkers, it begins to return with the needles following this movement, holding considerable pressure on the partial loops to prevent them from becoming distorted. This pressure also permits the partial loops to slip under the open beards as the needles start downward. When the needles reach the presser edge the completed row of loops are close to the points of the beards, the knocking over bits not permitting them to slip downward with the needle motion. (See Fig. 3.) Now, as the beards close, the needles continue downward and while tightly closed, the completed loops start to slip over the beards while the partial loops are under them. During the pressing operation the catch bar remains motionless for a short time, exerting just enough pressure on the partial loops to keep them from getting distorted and at the same time keeping the sinkers and dividers sufficiently receded so as not to interfere with the closing of the needles. It is important that these loops are not held too tight at this point. Once the completed loops have slipped over the tips of the beards it is not necessary for the beards to remain closed any longer, therefore the needles start to move away from the presser edge and also continue downward until the partial loops are drawn down between the sinkers and dividers. (See Fig. 4.) The catch bar then continues to recede until the tips of the needles are even with the tips of the sinkers and dividers releasing the partial loops entirely. (See Fig. 5.) Here for an instant nothing holds the loops from becoming distorted, but by now they are sufficiently creased or kinked to prevent much distortion.

Let us for a moment picture what we now have. The completed loops are almost to the tops of the needles which by this time are close to the edge of the knocking over bits. One side of the partial loops are under the beards while the other side has just been released by the sinkers. Now the actual knock-over motion begins. The bits have reached their highest point of movement in order to reduce the amount of clearance between the sinkers and themselves to a minimum. This also helps reduce distortion of loops as premature knocking over of the completed loops will produce poor fabric. The needles now continue downward until the tips of the needles are well below the edge of the knocking-over bits. This forces the lower or completed loops over the top of the needles while drawing the partial loops through the others, forming a new set of completed stitches. (See Fig. 6.) The needles now continue down and in toward the presser edge again, following the contour of the knocking over bits. They reach the lowest point at the groove of the bits and then start rising. (The hump on the bits behind the groove aid in laying the new loops so as to be clear of the needles when rising. Shedding of the stitches could not be performed satisfactorily without this hump). By the time the needle tips start



Unvarying Quality with Specially Finished Needles

To give you more firsts, fewer seconds and a clearer, sheerer fabric, all the facilities of our needle department are now concentrated on one product—the new Royersford Specially Finished Needles. Because special finishing is a "standard" operation and not a "special" job, you get Royersford Needles at the lowest price you ever paid for anything approaching this superior workmanship.

The prescription for better knitting

ROYERSFORD NEEDLE WORKS, INC., ROYERSFORD, PA. : : Spring-Beard Needles, Narrowing Points, Picot Points, Lace Points, Welt Hooks, Transfer Points, Stand Points, Bent Points, Dull Points : : Sinkers, Dividers, Jacks, K. O. Bits : : Thread Holders, Carrier Tubes, Welt Bar Hooks, and Eyelets, Strap Cleats, Plate Hooks, Footer Hooks, Strap Hooks : : R. F. Clamps and Straps, Legger Straps, Tension Wires, Snapper Springs, Mend Hooks—for all machines : : *For Glove and Underwear Industries*—Milanese, Tompkins and Tricot Needles, Milanese and Tompkins Guides, Tram Travelers : : Development work. SOUTHERN REPRESENTATIVES: Dave Blevin, Provident Bldg., Chattanooga, Tenn., Robert Baker, O. Henry Hotel, Greensboro, N.C.

ROYERSFORD NEEDLES

leaving the knocking-over bits the catch bar has brought the sinkers and dividers partly out. This is to hold the loops from rising with the needles. (See Fig. 7.) After the tip of the needles reach a point even with the throat of the sinkers and dividers, the catch bar starts moving back and the needles out away from the presser edge. When the needles have reached their highest point, the catch bar has resumed its original position. The needles then move downward slightly, carrying the loops with them. This is to keep the fabric away from the sinkers, especially at the selvage to prevent cutting when the sinkers start moving forward again to form a new course. This completes the stitch formation.

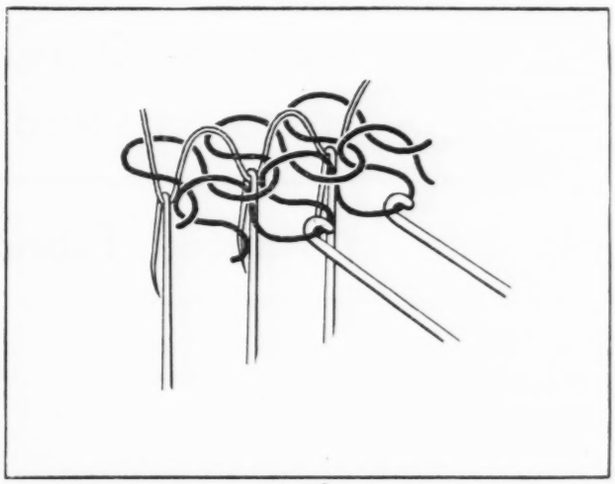
As before stated, in order to simplify the stitch analysis, we started with a completed row of loops on the needles. As there must be some means of acquiring the first set of loops, we will now enter into discussion of same.

Starting with an empty set of needles the yarn carrier feeds enough thread around the sinkers to form a set of partial loops. As these loops are being shed over the edge of the sinkers and dividers they are caught up by the welt hooks which hold them rigid. The welt bar is then hooked by a strap to the draw off roller to assist in shedding of the future rows of stitches. The second row or course knitted will leave a completed set of loops on the needles while at the same time completing the first set which remain on the welt hooks until the double portion of the fabric is formed by transferring these loops back on to the needles. This operation is performed manually by the knitter and requires considerable skill.

Formation of Narrowing Stitch

Although the narrowing motion has no direct bearing on the actual forming of the stitch, it will be appropriate at this time to explain how this function is performed. A full-fashioned machine always commences knitting of the fabric at the widest part, using the greatest number of needles in a particular style of hose and fashioning this down by reducing the number of needles in use. This is accomplished by transferring a certain number of selvage stitches from one set of needles to another by means of the narrowing machine which is equipped with points to pick these stitches up from the needles and replace them on another set closer in to the center of the fabric, thereby preserving the selvage and at the same time shaping the stocking. The number and position of these narrowings determine the ultimate shape of the hose. The fashion mark on a stocking is made by the over-lapping or tucking of the stitches when the selvage is carried in closer during the narrowing motion. This over-lapping takes place between the first two narrowing points and the last two stitches remaining on the needles next to these points.

The narrowing points are fitted with grooves wide enough to accommodate the beards of the needles when these are pressed into them during the narrowing motion. They also have a slightly curved point which imbeds itself in to the groove of the needle below the beard. When the two are in this position the stitches are readily slipped from one to the other, facilitating transference of the loops during the narrowing motion. It is often erroneously assumed that the curved tips of the points aid in holding the loops to them while transferring the stitches from one set of needles to another, but paradoxically enough, only aid in slipping the loops on and off the points. The narrowing fingers of a legging machine usually engage 18 or 20 of the selvage stitches on each side of the fabric, this number varying with the gauge and style of work being knitted. The conventional number of needles decreased at each narrowing is four, two on each side, this number moving the yarn carriers one sinker space and keeps them in line with the selvage at all times. During various portions of the fabric, such as in the heel and toe, the number of narrowing points used is decreased gradually to accelerate the amount of curve in the stocking, but the yarn carriers always continue with the same movement as previously explained.



A close-up of the stitch formation

After a given number of rows or courses are knitted into a fabric, the cam shaft, through the use of the shogging assembly, shifts over, engaging all the rollers of the machine in connection with this shaft, on an entirely different set of cams. This movement lowers the narrowing machine, bringing the narrowing points in contact with the needles. During this motion the needles move downward slowly and at the same time in toward the presser edge. Once contact is made with the points, the needles are pressed firmly into them and then both continue downward together. This movement slips the loops from the needles to the points, the knocking over bits preventing the stitches from continuing down with the needles. When the loops are well up on the narrowing points, the narrowing machine ceases its downward movement and the needles move outward from the points. Only sufficient room between the needles and the points is permitted while transferring to prevent scraping of these two parts against one another, otherwise the yarn, forming the wale between the first loop on the points and the last loop remaining on the needles where the tuck or overlap is formed, would be stretched beyond its point of elasticity, breaking it. By this time the sinkers and dividers have receded into the sinkerheads to allow

(Continued on page 125.)

No Life In Knitted Fabric

A practical question with answers by mill men . .

A MANUFACTURER recently sent us a sample of knitted fabric, dyed maroon, stating that the question had been raised as to whether or not combed yarn produces an appreciable difference in handle, in knitted fabrics, from that produced by carded yarn. The sample that he sent was knitted with 28s/1 carded yarn, and then dyed with a developed color. The piece had been treated with an olive oil softener. The manufacturer realized that a certain harshness comes from the longer dyeing process and he wanted to produce a softer hand. Another objection was that there was no life in the garment material.

Pieces of the fabric were sent to several manufacturers of knit fabrics, who were asked whether the combed yarn or the carded yarn produced the best handle, and whether or not the dyeing operation would produce this deadness in the fabric. One manufacturer replied as follows:

"Based on our experience, your sample impresses us as having a very good handle and while there is not the life in the piece as would be found in natural fabric, we consider, nevertheless, that there is a fair reaction in the stretching qualities. Of course, the developing process of dyeing has a tendency to affect the life of the fiber, especially this shade.

"It happens that we have produced a considerable quantity of fabric similar to your sample and in the same shade, in the days when so-called polo shirts first came on the market, except that our count was 26s carded instead of 28s. We dyed the fabric with developed colors and found no occasion to use a softener, as our cloth, after mangling was found to be satisfactory in every respect for cutting and as a piece of first-class merchandise. In our opinion, there is not sufficient difference between the handling properties of combed and carded yarn for this purpose to justify the extra expense of using the combed yarn.

"Our net opinion of the matter is that if the fabric in question is equal to the sample attached, there is not much to be done toward improving the handle, though more could be told about this in a larger piece of fabric or a garment, if available. Our viewpoint is that the present process of dyeing and softening should be satisfactory, at least it would be for our mill."

WE invite our readers to make use of this department for the discussion of any and all problems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given but will be held in confidence and a pen name substituted when printed. All acceptable contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

Another mill man replying to the same letter and after looking at the sample said:

"Combed yarn in knitted fabrics similar to the sample produces a fabric with more life, better appearance, and will take dye much better than carded yarn.

"The mill may secure a soft feel by using an olive oil softener and we would be only too glad to give him our formula but no two plants use the same one as the conditions are never identical. For instance, the water in his section may be hard or soft. Without a water softening outfit a plant would have to use some kind of chemical softener for the water, also, a cloth softener."

He then suggested that the mill having trouble get in touch with a company selling these supplies, who would be glad to give any information on the subject.

Still another knitting mill man replied that there are several things which could cause harshness in a piece of knitted fabric, namely, the twist in the yarn, drying at too high a temperature, and drying under tension.

"I think the controlling factor in the feel or hand of a piece of knit goods is the twist in the yarn. The theory of knitting is to have as little twist in the yarn as possible, just enough to hold it together. Naturally in the manufacture of cotton yarn, enough twist is put in to make it spin good. The staple of the cotton also has something to do with the amount of twist used, so when knitting or hosiery twist is ordered by the knitter, he does not always get yarn made with those twist constants, but with a constant that is suit-

able for the staple cotton being used for best spinning results.

"It can be seen from this explanation that combed yarn would produce a much finer knitted fabric because it has more tensile strength and can be spun with the minimum amount of twist.

"On the sample submitted, I hardly think the harshness has been caused by the dyeing, but rather by the twist in the yarn. I don't think the dyeing is the cause of the fabric having no life, but I think it is due either to drying under tension or to the knitting construction. Several items enter into the knitting construction such as cut, gauge of needles, stitches per inch, and how the stitch is formed. It is hard to determine just what the cause is unless these details are known."

COTTON welcomes questions of this type. It is both interesting and beneficial to all to enter a discussion on some practical subject.

After the foregoing answers had been forwarded to the mill man that submitted the sample, he gave his own opinion concerning the handle of the fabric. He said, "I believe that the difference in handle is mostly due to knitting construction, providing, of course, that care has been taken through the dyeing and finishing operations. I believe that the best possible handle has been reproduced on the sample of fabric in question. Often times the dyer being the last to handle the fabric gets the credit for not producing the fabric desired, when all the time the knitter has failed to judge the correct knitting construction. The fabric in question was mentioned as having no life in comparison with a piece of fabric which the writer believes was knit with ingrain dyed yarn. In other words, one would hardly expect to reproduce the fabric by the method we were attempting to use. I appreciate the help you have given me."

Fixing Model "K" Machines

Auxiliary Cam Brackets (Continued)

THE auxiliary raising cam slide (Catalog No. 8387) and its cam (Catalog No. 8285) are used in conjunction with the auxiliary slide cam (Catalog No. 7175) during the makeup and in the anti-ravel course. The slide (Catalog No. 8387) has but one movement, that is, inward, so the raising cam (Catalog No. 8285) will just clear the short butt needles and raise the medium and long butt needles from the lower to the upper needle level. This permits withdrawal of the slide cam (Catalog No. 7175) at the proper time. When the raising cam slide is at the inward position, the cam (Catalog No. 8285) should just clear the short butt needles. A dowel pin located in the outer surface of the cam bracket provides a stop for the raising cam slide; care should be taken that the tail of the slide rests against this dowel pin when the slide is in. Hem makeup trouble will develop if the raising cam rubs against the short butt needles. The raising cam, when in action, should lift the long and medium butt needles high enough to clear the auxiliary slide cam (Catalog No. 7175) with sufficient leeway to permit a slight drop of the cylinder in case the stitch should change at this point.

One point worth remembering in connection with the raising cam is that it contacts the long and especially the medium butt needles at their outer ends, therefore the cam must be smooth and free from sharp edges along its upper surface to assure easy lifting action and prevent the needle butts from jamming against the cam.

Front Dividing Cam Slide

The front dividing cam slide and its cam (Catalog No. 8284) are used only during the hem transferring operation to bring the lower level needles down while the dial jacks are out. The movement of this cam and slide is in four steps, 1, half way in to clear the short butt needles; 2, all the way in; 3, half way out; and, 4, all the way out. Ample adjustment facilities are provided by the auxiliary feed cam lever adjusting screw. The feed cam lever in turn is actuated by a thrust bar, thrust bar cam and main drum cams.

Most of the trouble which occurs in connection with the auxiliary cam bracket assembly can, as a rule, be traced to improper main drum movement or, as it is more commonly called, bad timing. Not all bad timing is caused by machine failures. Some is caused by the machine fixer himself when he grinds off the front or back of a drum cam in order to change its timing. Many fixers *grind* themselves *into* trouble, when they should be *adjusting* themselves *out of* trouble.

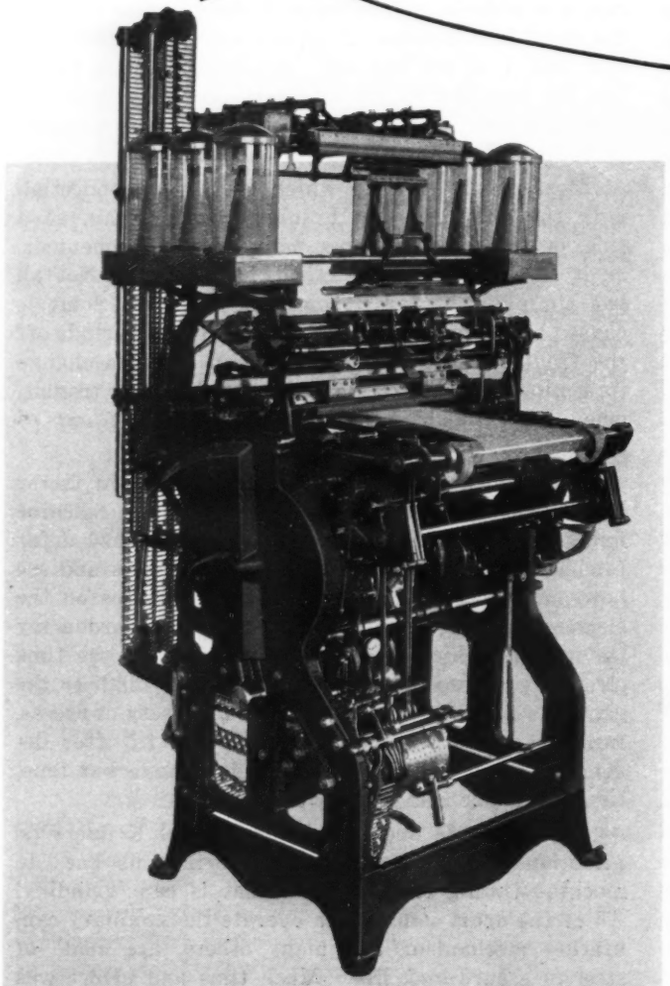
The element of time is a mighty important factor and is closely related to practically every machine fixing problem. If this statement seems somewhat far fetched, analyze carefully any one day's work and see how many jobs you do that hinge themselves on the element of time. And if the reader will pardon my leaving the subject for a moment, how does the time element stack up in our daily life—from birth to the grave—wealth, poverty, happiness, misery, success, failure—practically everything life has to offer depends in some way on time. And, strange but true, time is the one thing we have too little of.

Now there is one thing many Model K fixers do intentionally or otherwise which brings us back to machine timing troubles, and that is cam grinding. All of the drum cams which operate the auxiliary cam bracket mechanism, and many others, are made of steel to assure long life. Much time and effort was put forth in designing these cams; surely they do not get longer or shorter over night, then why grind cams? The answer is simple: the fixer does not understand or make use of various timing adjustments, so he grinds instead. Some fixers hesitate to change adjustments because they are afraid of having additional machine trouble develop. I will relate an incident which occurred recently that will illustrate what cam grinding can lead to.

One of our fixers was having some difficulty trying to overcome a case of needle breakage in the makeup and transfer. He tried advancing the auxiliary pawl plate, with no luck; he re-adjusted the auxiliary rack-

—single operation
—perfect fit

Announcing
The New
WILDMAN
SINGLE UNIT
SINGLE HEAD
FULL FASHIONED HOSIERY MACHINE
This modern machine makes the regular French foot stocking complete on the one head with perfect match of leg and foot. Ease of operation is another important manufacturing advantage.
Write for Special Descriptive Literature
WILDMAN MANUFACTURING CO.
Full Fashioned Division
Norristown, Pa.



The Modern

It was "front page news" when we announced this new WILDMAN Single Head, Single Unit, Full Fashioned Hosiery Machine — producing regular French Foot stocking complete on the one head with perfect match of leg and foot.

But not to be overlooked is the fact that the new machine is factory assembled, shipped ready to set up on your floor for immediate operation.

Consider too, simplicity of operation, and the various mechanical provisions for maintenance of quality and uniformity of production.

Literature upon request

WILDMAN MANUFACTURING CO.
NORRISTOWN, PA.

WILDMAN
THE WORLD'S STANDARD

WILDMAN SINGLE-HEAD, SINGLE UNIT
FULL-FASHIONED HOSIERY MACHINE

ing cam, with no results. Next, he checked the main pawl plate. It was on its mark so he figured it was set right. He was told, "When you get into a jam, call the head fixer", so, much to his dislike, he called for help.

The head fixer asked a few questions and started checking up. First, the main pawl plate—it was on its mark, but the front had been worn off about 1/16-inch so he advanced the plate. Next, he re-adjusted the auxiliary racking cam and the racking pawl plate. Then he tried the machine out—but no luck. Next, he examined the steel drum cams and found one with the front ground off. "How about this?" he asked, and the fixer somewhat indignantly replied, "It's been ground all right, but not by me." The old cam was discarded and a new one put in its place. Again the machine was tried out—but no luck.

By this time the youngster was thinking, "Well, Mr. Head Fixer, I've got something for you." But the head fixer began to check every drum movement, suddenly he stopped and retarded the drum driving gear. "All right, son, now you try it out and see if it will behave this time."

The old K responded immediately; it was really fixed that time. "Thanks," said the youngster, "I never thought of that cam being ground." The head fixer replied, "I don't blame you, lad, the man who ground that cam didn't think either.

"Now I'll give you a few pointers in regard to machine timing troubles: first, remember that main pawl plates wear off. Keep them set to make a full stroke. Be sure the plate engages the right tooth on the rack wheel. That is all you or anyone can or ever will have to do for the main pawl. Think of the main pawl movement simply as a source of motive power, not as a means of timing the main drum movement. Once the main pawl plate is set right, forget it; everything on the machine depends on the main pawl movement.

"Next, check the auxiliary racking device. Remember it starts where the main pawl leaves off. Set the auxiliary pawl plate down so it makes a full stroke and make sure the racking cam is properly located. Then check the drum driving gear and remember when you advance or retard this gear, you do not *increase* or *decrease* the *main drum movement;* you merely change its *time* of movement in relation to the main pawl or the auxiliary pawl.

"All cams on the drum are made to work properly providing those parts which supply motion are adjusted correctly. Therefore, there is little need to lengthen or shorten the drum cams, especially the steel cam which controls the movement of the auxiliary cam bracket slides. Now, what I have just told you about steel drum cams does not necessarily apply to pattern cams, shear blocks, etc., since pattern changes make it necessary to rearrange these frequently."

"Well," said the youngster, "I'm glad you explained this timing business. I tried to do a job like this several days ago and got the machine so badly messed up that I was afraid I'd get this one in the same shape. I'm sure I can make the next one behave."

Before we proceed, may I add that the head fixer told the young man plenty. The advice is sound and practical. I have set it down as well as memory permits—may you profit by it.

THIS is the seventh of a series of practical discussions on the operation and adjustment of the Model K knitting machine, applicable primarily to the plain machines, but containing much pertaining to the spiral type of equipment. The first installment appeared in the April issue, page 188; the second in the June issue, page 157; the third in the July issue, page 110; the fourth in the August issue, page 127; the fifth in the September issue, page 131; and the sixth in the October issue, page 192. Yarn arrangements, make-up trouble, the cross-bar assembly, transfer trouble, the cylinder, stitch cams, auxiliary side cams, lower jack cams, auxiliary racking pawl assembly, auxiliary rocking cam and auxiliary cam bracket have been discussed. The accompanying installment continues the discussion of auxiliary cam brackets, and covers also the front dividing cam slide, "bad timing," and the pattern chain . . . . . .

In closing my comments on the auxiliary cam bracket and other mechanisms connected directly or indirectly with it, may I call attention to the various thrust bars and their respective cams? These minor parts need a little attention occasionally; see that they get it. Then there are a few levers, springs, plungers, etc.; they will serve you well for many years but they will not last forever—keep after them and keep out of trouble.

The Pattern Chain

When we think about pattern chain troubles on a Model K machine or any Scott and Williams machine for that matter, we must consider three factors, each depending on the other. These are the chain, the chain pawl plate, and the ratchet pawl lifter assembly.

Much depends on these simple parts and many every-day machine failures (accidents, jam-ups, bad days or wrecks, in fixers' parlance) can be prevented by keeping these simple parts in first-class condition. Perhaps their simplicity is one of the main reasons why they are often neglected. Ask any old time K fixer if he really understands all about the pattern chain, chain pawl plate, and the pawl lifter assembly, and you will get anything from a dirty look to a black eye for an answer. Why? For being so darn insulting, of course.

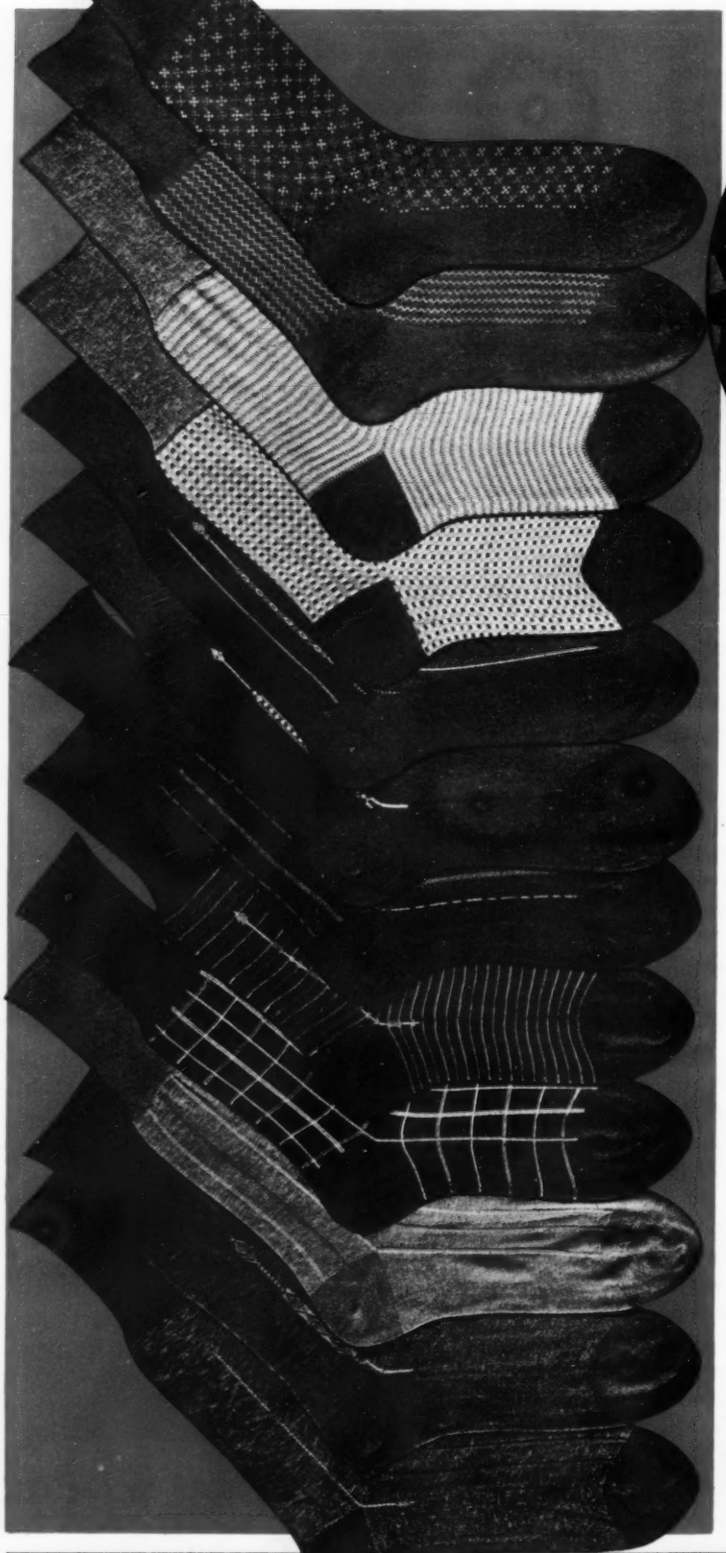
Instead of trying to tell you a lot about pattern chains (I know little about them) I'll tell you about something that my old buddy, Sam, was doing. Sam to me is like Charlie McCarthy is to Edgar Bergen, only Sam is not a piece of lumber. No, he's actually in the flesh, and Charlie says what Bergen says, but I say what Sam says. And what was Sam doing?

Sam was sitting on a low stool. He had the shield off of one of his machines and he was watching the chain go around. It did seem somewhat unusual, so I asked him what he was doing. He looked up with a grin and said, "Preventing trouble."

"But what kind of trouble, Sam, let me in on it."

"Well, you see, it's like this. Chain link lugs

High performance KNITTING YARNS



WHEN the User *repeats* on your product, you have touched *high performance* on the scale of merchandising—VALUE, recognized at the point of sale.

Knitters of half-hose find that the same quality in AMERICAN Super-Mercerized DURENE brings repeat business from the consumer, also records *highest performance* in manufacturing efficiency.

AMERICAN Super-Mercerized DURENE will not dye-streak. Run a test at our expense.

AMERICAN
YARN AND PROCESSING COMPANY

MOUNT HOLLY N CAROLINA

It's the yarn that counts

AMERICAN *Super Mercerized Durene*

Chicago, Illinois	Chattanooga, Tenn.	High Point, N. C.	New York, N. Y.	Philadelphia, Pa.	Providence, R. I.	Charlotte, N. C.
Mr. E. W. Wood	Mr. Tom Moore	Mr. E. J. Holbrook	Schoolfield-Sauer Co.	Schoolfield-Sauer Co.	Schoolfield-Sauer Co.	Cosby & Thomas
222 West Adams Street	735 Chestnut Street	Mallory Street	40 Worth Street	1600 Arch Street	87 Weybosset Ave.	Johnston Building

become worn, the lifter plate becomes worn, so does the chain pawl plate. All this goes on day after day, gradually getting a little worse, until finally something fails to click. Then I have jam-ups, broken up and down picks, broken cylinder walls, broken dial jacks, waste, etc.

"By checking over these simple things regularly and keeping them in first-class condition," continued Sam, "I am able to prevent plenty of trouble, cause less work for me and less expense for the mill. I fix 40 machines, and I *take time* to check over *2* machines each day. It takes about 30 minutes. The other day I learned something which during my many years as a machine fixer I had not previously known. It really helps, costs nothing and takes but a few minutes of my time. Right now I am adding it to my regular check-up."

"Well, Sam, let's have it."

Then he proceeded to explain:

"Notice the lugs on these chain links. They are badly cut and worn on top. What caused that? Why, the lifter plate, no doubt it is grooved and has sharp edges all around. Right. Now what caused the lifter plate to wear like that? Why, the chain link lugs. Wrong. All right, then what did cause it? The plain chain links and nothing else but.

"That lifter plate is riding on the plain links constantly with the spring pulling it down. There are many plain links, but only a few lug links in this chain. Once the lifter plate becomes sharp, it cuts these lug links up in double quick time and then things begin to happen faster than I can take care of them."

"But how can you prevent the lifter plate from becoming worn, Sam?"

"That's what I'm doing right now. Simply loosen the belt shifter shaft set screws, turn the shaft upward until the ratchet pawl lifter rests on the locating screw, and tighten the set screws again (Catalog No. 6689). Now, the lifter plate just clears the plain chain links, the locating screw is carrying the load, and only the lug links will cause the lifter plate to become worn.

"This simple adjustment prevents both the lifter plate and the chain link lugs from wearing out prematurely and this saves a lot of trouble.

"While I'm at it, I re-shape and re-adjust the chain pawl plate, also remove any badly worn lug links."

"Well, how much time, trouble and expense do you save by going over to machines each day?"

"That's a hard question to answer, but in the past three months I have not had a single machine to get out of time, jam-up or give any of the usual trouble which are caused by the lifter plate, the chain pawl plate or lug links."

"That's saying a lot, Sam, have you told any of the other boys or the boss about this simple adjustment?"

"No, I haven't."

"Why?"

"Well, first, I wanted to make sure that it really was worth-while, and then I figured that I might be the only one who did not know about it. The boys might say that it was old stuff and ask me to show them something new."

"I can understand that, Sam, but the next time you find something like this, tell us all. If it's old stuff, you still have learned something, and if it's new, well, you're tops. Thanks for the tip, Sam, it's new to me. I'm going over every one of my machines, starting right now."

The next installment in this series will cover other parts of the Model K machine.

MATTHEW K. MITCHELL

Narrowing Finger Menders

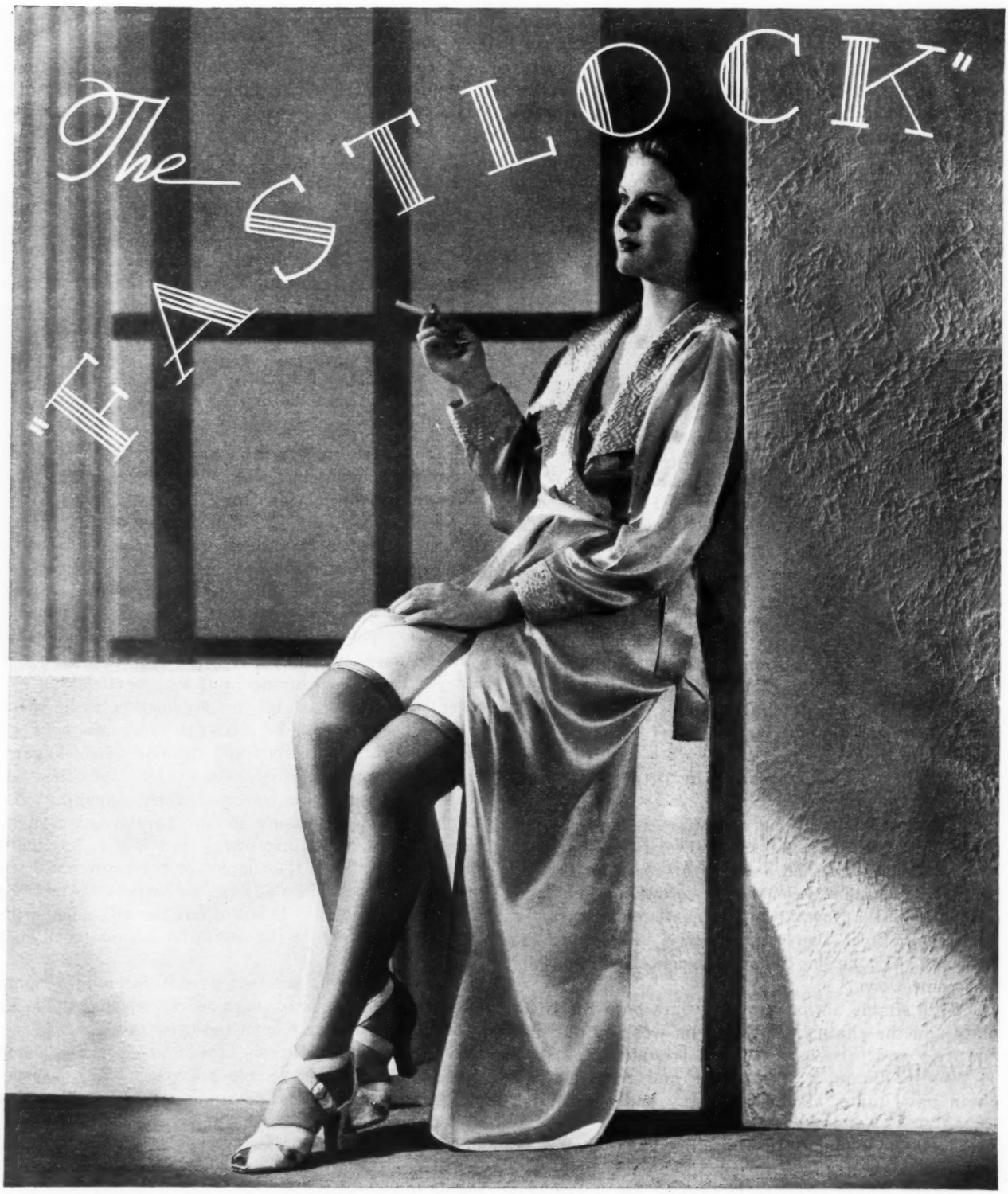
THE FOLLOWING discussion pertaining to settings of the narrowing fingers was written by George Lynch and appeared in the April issue of *The Full-Fashioned*, house organ of the Greensboro (N. C.) Full-Fashioned Hosiery Mills, Inc., of which William M. Grosse is superintendent. Mr. Grosse is also editor of the organ in which this discussion appeared:

Each narrowing finger must be set on the rod so that the points in the finger are exactly in line with the needles, thus making it possible for them to engage accurately at all times (assuming, of course, that the needles are spaced properly between sinkers and dividers). The long narrowing fingers extend down over the lower narrowing rod and the narrowing rod will not have free movement if dirt particles on the lower narrowing rod become wedged between these parts. There should be .002-inch clearance between the lower narrowing rods and the narrowing fingers. This clearance should not be more than .002-inch because the narrowing points, when engaging the needles, exert a pressure on the points and needles. Likewise the upper narrowing rod finger, having a long leverage, needs the support of the lower rod when the needles and points engage, to prevent the needles from pushing the points out of angular alignment with the needles, which would result in a consequent loss of loops.

Care should be exercised when tightening a clamp after replacing a narrowing point to see that the sides of the clamp are flush with the sides of the brass section of the finger; then it is well to screw the clamp in position with reasonable pressure. This is especially important on the footer fingers where the wide fingers push the narrow ones a distance of one needle; in which case, any misalignment of the clamps will disturb the relationship between the fingers and will result in narrowing trouble. Screwing the clamp too tight will cause the special paper holding the points in position to become defaced or cut and the narrowing points will move in their slots, thus causing narrowing menders.

In tightening a clamp on narrowing finger, always place pressure in back of finger with idle hand so as to counteract the pressure of the screw driver. This will prevent the narrowing finger from becoming bent. The fingers are made of soft brass and will bend easily and a bent narrowing finger will surely give trouble.

Rough or rusty narrowing points will not allow the loops to be picked up and transferred to other needles.



THE "FASTLOCK" MACHINE provides all of the necessary facilities for the economical and efficient production of Thi-Hi* elastic top hosiery. The Fastlock Machine pioneered the knee length and manufacturers now turn to it for quality and quantity production of above-the-knee elastic top hosiery. Speedier operation—easier handling—wider adaptability and lasting dependability are essential factors offered by the Fastlock. Proven in the leading hosiery mills the Fastlock Machine will be gladly demonstrated on your own work, without obligation. Willcox & Gibbs Sewing Machine Co., Home Office; 658 Broadway, New York, N. Y. Willcox & Gibbs Sewing Machine Co., Ltd., London, England. Manufacturers and Distributors of Willcox & Gibbs and Metropolitan Sewing Machines.

*Trademark Lycoming Hosiery Mills.

THE "FASTLOCK" FOR BETTER ELASTIC TOP HOSIERY

The loops must be free to slide on or off the narrowing points without any interference. Such conditions as "oil caked" points will cause the same trouble as rusty narrowing points, and additional trouble can come from the points if the groove is full of dirt and dried oil because the tip of the needle cannot be guided into the groove of the point when engagement is made. The needle will then slip off the point entirely and the loop cannot be picked up.

Narrowing points with the side walls pressed together through incorrect pliering will cause the needle to slip off the narrowing point and prevent the loop from being picked up or transferred. Improper spacing of the narrowing points by the knitter and pliering the tip of the point too straight will often prevent transfer of the loops. A hooked point caused by the point striking the top of a sinker, divider or needle will cause narrowing menders. This is often the result of improper pliering of the points.

Sinkers and Dividers

The man who asked the original question now reviews some of the answers . . . . . .

EDITOR COTTON:

In the discussion that has taken place recently in COTTON concerning the relative length of full-fashioned sinkers and dividers*, in answer to my question which appeared on page 139 of the November, 1936, issue, I note that "CONTRIBUTOR No. 6685" made the statement that "The measurements from the *inside* of the butts of the dividers have no significance at all so far as the fabric is concerned." He also gives some other helpful suggestions in his letter on page 109 of the July, 1937, issue.

I greatly appreciate all of these letters that your contributors have written, but I question if this particular contributor has quite appreciated the uncertainty in my own mind on this subject. I do realize, of course, that the distance from the inside of the butt to the throat of a divider is quite unimportant because the catch-bar pushes the sinker forward by exerting pressure upon the outside of the butt, but the inside dimension of the sinker is important as well as the outside dimension of the sinker because in this case the jack bears upon the outside of the butt of the sinker and the inside surface of the butt on the sinker comes against the verge plate.

The fact still remains that on certain machines when the forward pressure of the dividers has forced the sinkers backward, the throats of the sinkers and dividers are in line, whereas on some other machines at the same position the throats of sinkers and dividers are out of line by as much as .006 or .007-inch. It was to determine, if possible, this effect upon the knitting that I originally raised the question, "Should Full-Fashioned Dividers Be the Same Length as Sinkers?"

I am inclined to believe from some things that I have heard recently that "CONTRIBUTOR No. 6685" is approaching the real point in the whole discussion when he says in his fourth paragraph:

"If the .006-inch difference is in the distance from the outside of the butt to the throat of the divider, there would be that much difference in the length of the sinker and divider loops after the dividing function is completed. Some of this difference might be eliminated by the needles in the knock-over motion, but a difference of .006-inch on a 42-gauge fabric that was being knitted moderately tight could not be balanced by the knock-over motion adjustment."

We have been informed that the action of the knocking-over bits on certain machines, which have dividers and sinkers of different lengths, is quite different from the action of other machines having sinkers and dividers of uniform length.

CONTRIBUTOR No. 6725

*To review the previous discussion on this subject, read the question on page 139 of November 1936 and then turn to page 187 of the April 1937 issue, page 153 of the June 1937 issue, and page 109 of the July 1937 issue to get the opinions of other men concerning the relative length of full-fashioned sinkers and dividers.

The Maintenance and Fixing of Full-Fashioned Hosiery Machines

(Continued from page 117.)

the narrowing fingers free upward movement with the loops. This now takes place until the points are clear of the knocking-over bits. At this instant the narrowing fingers, carrying the selvage loops, move in toward the center of the section two needles on each side and then start downward again between the knocking-over bits. When the fingers have reached their lowest point, the needles once more start pressing into them. In this position they both start rising again, this movement, slipping the loops back on the needles, while the sinkers and dividers, which have again come forward, aid in pulling the stitches from the points. After the loops have returned to the needles, the narrowing machine rises rapidly, returning to its original position, while the cam shaft shifts back, placing all the rollers once more on the stitch forming cams.

Only a very brief outline has been given of this motion, sufficient to give the reader a general knowledge of the fashioning principle. In a later article the correct settings of the entire narrowing machine will be discussed in much the same way that we have taken up needle bar adjustments in previous chapters.

Rayon from Rice Husks in Japan

According to the *Science News Letter*, August 21, 1937, a $2,900,000 industry is being promoted in Tokyo, Japan, with the object of producing rayon-making pulp from rice husks, of which a practically unlimited supply is assured in Japan. The process that forms the basis of the new industry has been developed by the Tokyo Industrial Laboratory, a division of the Department of Commerce and Industry, in collaboration with the research institute of the South Manchuria Railway Company. Japan at present is among the world leaders in the production of rayon yarn. Also, Japan is the world's first rice growing country. The annual crop averages 475 million bushels. As one bushel of rice yields about 419 pounds of husk, the entire turnover of the rice crop in Japan should yield nearly four billion pounds of husk a year. At present the rice husks are thrown away as practically worthless.

THE KNIT GOODS MARKETS . .

Knit Goods Prices Easier Following Declines in Raw and Yarn Markets—Large Cotton Crop a Major Factor in Slowing Demand —Lower Silk Prices Bring Hosiery Adjustments

Philadelphia, October 16, 1937

THE MONTH has been an unfavorable period for knit goods manufacturers. They have been confronted with a general letdown in business sentiment as other industries have recently faced but in addition knit goods manufacturers have been compelled to make important adjustments following the prediction of the Government October 8 of one of the largest cotton crops on record. In addition they have been confronted with a drastic decline in silk prices which are quickly reflected in demands from buyers of silk hosiery for lower prices. The situation in China has caused buyers of silk to act very cautiously and the same thing has caused many buyers of silk knit goods to buy conservatively.

This has brought about a decline in new orders booked by hosiery manufacturers in both the seamless and full-fashioned sections followed by less active machine rates by most knitters in this district. In this connection it has been interesting to see that Philadelphia full-fashioned mills while slower have continued to operate better than in Reading where they have 6 to 10 per cent lower wage schedules. The union wage agreement in that section does not expire until the end of this year.

Even though manufacturers of hosiery have been curtailing, stocks have been accumulating, which is apparent from the most recent available statistics issued by the Department of Commerce. These show stocks of both full-fashioned and men's seamless stocks larger than a year previous by a considerable margin and they indicate a trend which is no doubt true of other branches of the industry.

Some excuse for this increase in stocks may be given by the statements of manufacturers that were building up supplies for their normally most active selling season which comes in the fall and hits a peak when supplies for the Christmas trade are bought. This year manufacturers are curtailing just at the time of the year when they should be going ahead full blast on a seasonal basis. Of course aside from such internal factors as the decline in silk and cotton there have been major developments outside the knit goods field that have slowed all buying, one of these being the decline in the stock market and a generally more uncertain business outlook.

This has progressed to such a point that most manufacturers are now agreed that it will be some time ahead before large hosiery buyers go back to the policies of the early part of 1937 in ordering ahead. Hand-to-mouth buying is now in the wind and most are imbued with this spirit. Some outside development must come along if it is to be changed. In this connection there are attempts to raise the question of higher labor costs if the Black-Connery bill passes setting minimum wage scales and maximum hours but this to date has failed to scare buyers into another buying spree.

During the earlier months of this year, hosiery manufacturers were confronted with constantly rising costs, largely because of advances made in the wage schedules. Hosiery buyers were aware of this trend and in many instances they increased the size of their orders during the first half of the year considerably above volume normally placed in that period of the year, in an attempt to beat the resultant price advances. There is some evidence at present that these tactics were not unlike those followed in 1933, when forward buying was heavy, prior to the imposition of the NRA regulations. In view of this, some important buyers find themselves at present in possession of more goods either in their warehouses or still on order from manufacturers, which is affecting their new commitments for hosiery.

Courtesy Industrial Rayon Corporation

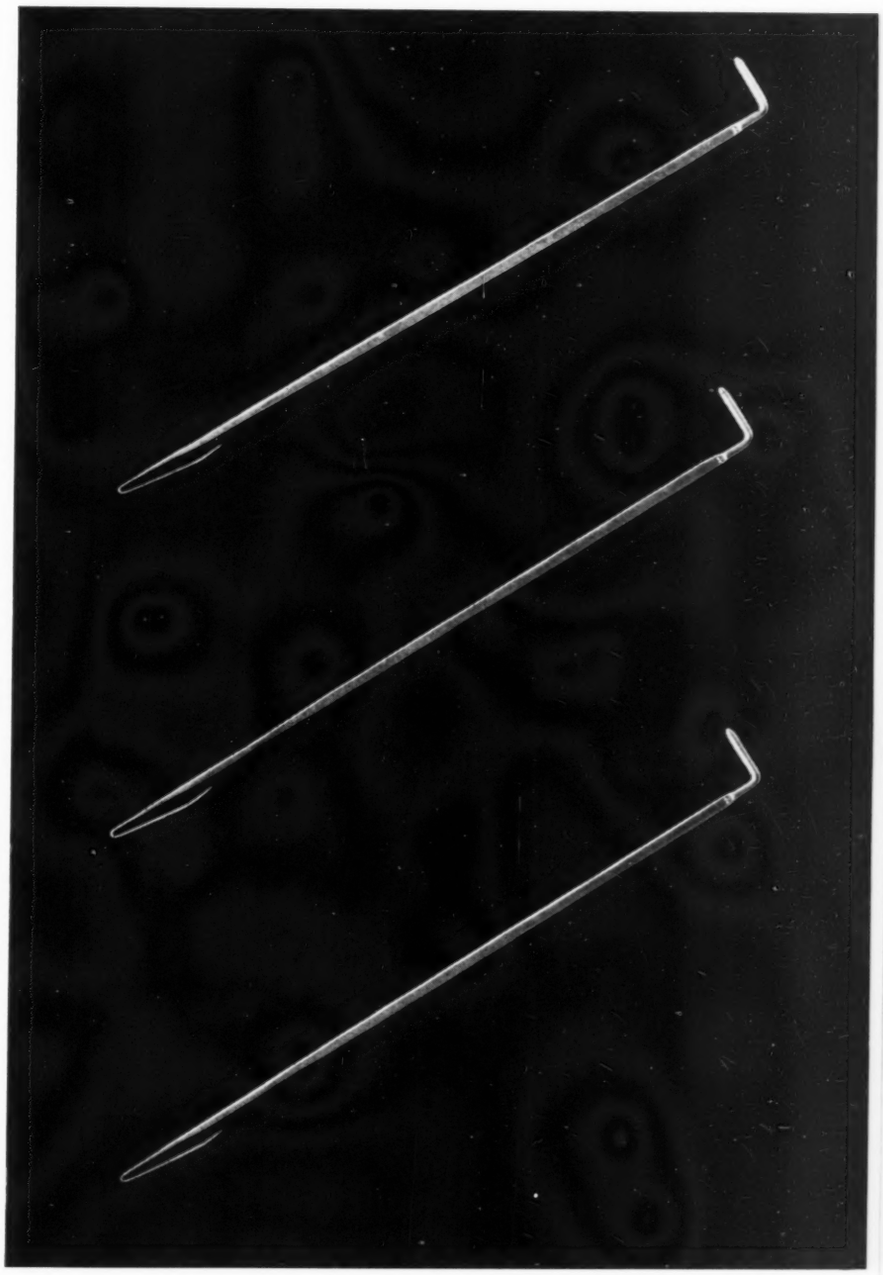
Stripes have already won their popularity. They lend themselves to both pastel and high shades. The cloth can be used in small pieces, slips, gowns, and pajamas. The style notes of the above pajamas are arrived at by inserting two panels of cloth cut the opposite way of the goods . . . . . .

Large Stocks Hold Up New Business

To a lesser extent the same thing appears to have been done by many manufacturers who are now in possession of considerably larger stocks of goods than they held at this time a year ago. According to statistics of the Department of Commerce, manufacturers held approximately 700,000 dozen pairs more at the end of August than they held a year previous. With hosiery buyers showing a more conservative buying policy, these stocks assume even greater prominence than when demand was active. Recently, manufacturers have begun to curtail to an important extent and indications now are that this tendency for them to increase inventories has terminated. It is also pointed out in connection with their large holdings that there is a tendency on the part of many stores to carry a more balanced stock, a little more of each item, which is reflected in an increase in stocks. Another factor in the accumulation of larger inventories by the mills was the threat of strikes and the wish of manufacturers to protect themselves as far as possible against such a contingency.

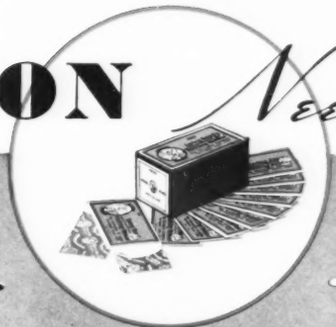
New business being booked by manufacturers has declined drastically during the last two weeks, due to more uncertainty regarding general business conditions but more particularly to the decline in raw silk prices, which hosiery buyers feel will result in lower prices. In this connection, while there have been reductions made by a few manufacturers, the majority have made no change. Makers of branded full-fashioned hosiery announced they

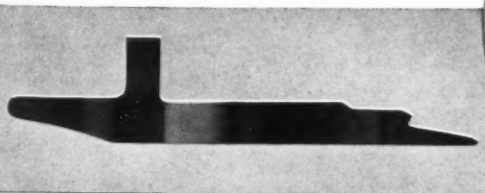
UNIFORM *Dimensions*

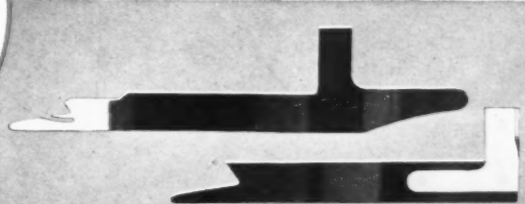


● The size of a stitch is governed largely by the size of the needle that makes it. It is evident, then, that all needles must be uniform in dimension to produce uniform knitting. The length, width and thickness of Torrington Needles are controlled by specially developed *machine* processes. Their extra machine-made uniformity cannot be detected without a microscope, but the extra uniformity of stitches they produce is evident to the eye. It is one of the reasons why careful knitters and fixers insist on Torringtons as their first and only choice. Torrington sinkers, dividers and split dividers are made by the same exacting machine methods.

TORRINGTON *Needles and Sinkers*







KNITTING YOUR CUSTOMERS

WILL REMEMBER

● Originality in styling opens customers' doors: good knitting keeps them open. There's infinitely more satisfaction in selling when you're sure your fabrics are above reproach from the knitting angle. Keep them above reproach — as the most quality-conscious mills do — with good machines . . . careful supervision . . . and Torrington Needles. Torringtons are favored, first, last and always, by skilled operators who take pride in the work they do.

TORRINGTON *Latch* **NEEDLES**

THE TORRINGTON COMPANY

The Torrington Company, 1640 Fairmount Ave., Phila., Pa.
The Torrington Co., Inc., 200 Fifth Ave., New York, N. Y
The Torrington Company, 538 South Wells St., Chicago, Ill.
The Torrington Company, Guilford Bldg., Greensboro, N.C.
The Torrington Co., Ltd., 137 Wellington St. W., Toronto, Ont.

TORRINGTON, CONN., U. S. A.

The S. M. Supplies Co., 210 South Street, Boston, Mass.
Los Fabricantes Unidos, 964 Calle Belgrano, Buenos Aires

Factories at

Torrington, Conn.
Upper Bedford, Quebec
Coventry, England
Aachen, Germany

were accepting orders for delivery until the end of October at unchanged prices, whereas previously they have been quoting prices for delivery only to September 30. The new date of October 31 is viewed as being so near to the Christmas buying period that a change from the $6.50-55 minimum price at that time would have an adverse effect upon the holiday trade and consequently, many feel that no change is to be expected in these goods. Business in the branded full-fashioned division thus far is reported to be somewhat ahead of last year, although the tendency within the last few weeks has not been so favorable.

The question of a boycott on silk as well as other Japanese products, came up for discussion at a hosiery conference in New York and William H. Gosch, president of the National Association of Hosiery Manufacturers, said it is inconceivable that our public would forget that raw silk is a commodity of the world. His answer was that in the event of real trouble, which he hoped would not come to pass, we would do as we would in any other emergency and make the best of it by offering other fabrics. In this connection, he emphasized that the peculiar natural properties of silk are such as man has not been able to duplicate.

Effect of Cotton Slump

Manufacturers making cotton hosiery of various kinds have also been affected by important declines in their raw material. Following publication of the Government crop estimate October 8, indicating one of the largest cotton crops in our history, prices on the futures exchange reached a new low, breaking through the 8-cent level. Shortly thereafter, spinners of all types of yarns reduced their prices and thereby brought hosiery buyers to a renewed decision to withhold new orders until the cotton and yarn markets became more stable. Reports from some of the largest makers of seamless goods during the first two weeks of October were that they were running on part-time schedule and that the usual September rise in volume had been less marked than in either of the two preceding years.

Although the slump in cotton was given by buyers as the reason, it is probable the continued decline in security prices affecting both sentiment and public buying power, was also an important cause of the let-down. So far as full-fashioned goods are concerned, there can be no justifiable complaint, in regard to manufacturers' shipments, it being estimated that

Courtesy Industrial Rayon Corporation

This knitted tea rose gown trimmed in French wine is effective because it achieves its high-style by means of cut-outs in both the collar and sleeve, giving the novelty idea to a staple number.

these are running well ahead of 1936 and will doubtless reach an all-time record of more than 40,000,000 dozen pairs for the year. It is recognized that conservatism in buying operations will be the dominant note for some time to come regardless of how ill-founded current business fears may prove to be. Buyers are not going to plunge today with all the uncertainty in the air but there is at least a possibility that this feeling and action based on it will be overdone. Manufacturers agree that speculative buying increased hosiery mill shipments for the nine months ended with May of this year to a larger extent than was warranted by consumptive requirements and speculative manufacturing accumulated excessive stocks in some instances. This situation is now in process of correcting itself.

More Favorable Aspects

On the other side of the picture are factors which may make themselves felt during the coming months and included in these are the threat of Congress enacting Federal legislation affecting labor costs. In addition, there is the prospect of further unionization of the hosiery industry with accompanying higher costs. These factors could very easily result in a much stronger price situation in all types of hosiery, even though the silk and cotton markets continue on their present low basis. Strikes and other labor disturbances have been less numerous during the last month and most of the walk-outs in this section have been adjusted in the last few weeks by manufacturers in most cases signing agreements with the hosiery union.

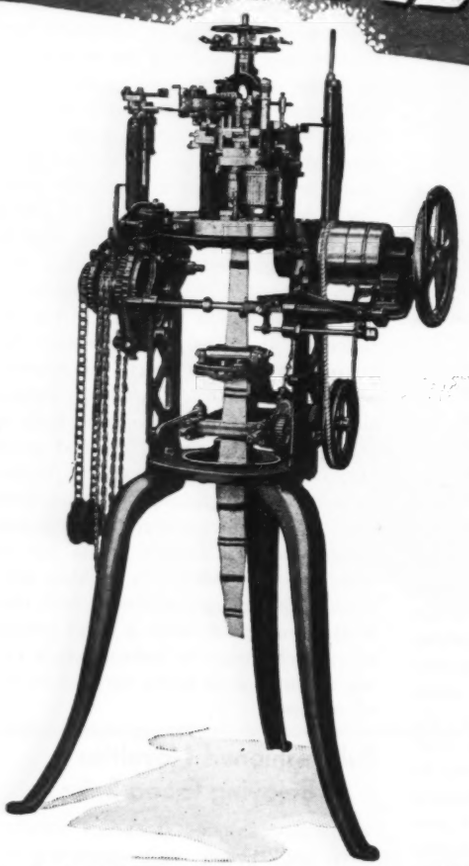
Buyers say it is difficult to find good quality 4-thread 42-gauge ringless stockings at less than $5.50 a dozen with standard mills continuing to quote $5.75 and higher. Definite business booked on anklets for next spring by large operators among the chains and wholesale houses, continues relatively small as a result of the upset price situation following the early October break in raw cotton and yarns. These buyers, however, will be forced to operate if they are to get the deliveries they will need. There is a growing feeling that the decline in cotton prices is now within hailing distance of the likely bottom and that action on anklets may be expected within the next few weeks. Subnormal half-hose sales have also been reported, particularly on low-end goods. Improvement of conservative proportions has taken place in women's seamless hosiery. Manufacturers making infants' and children's goods for fall were recently behind in making deliveries, although new business with them is slackening off, with a large producer of such goods in Pennsylvania having recently shut down because of lack of orders.

Full-Fashioned Novelties Enjoying Good Sales

In full-fashioned stockings, novelties have sold better than expected, this being particularly the case with black heels. Seamless black heels are also moving in surprising volume and in some sections of the country an actual shortage of quick delivery merchandise of this type is noted. This movement in novelty stockings surprised manufacturers who felt that such goods would meet with consumer resistance during the cool weather, as novelties appeared to be better potential sellers during the warmer and more informal summer months. Iridescents are reported to be one of the best sellers with re-orders coming in at a fair rate, while meshes and lace hose have declined as compared with volume during the summer.

Following a relatively poor month in August, shipments of branded full-fashioned hosiery showed an improve-

Brinton Ribbers



Rubber Lay-In
Picot Edge
3 & 4 Color Yarn Changes

Rack Welt
Mesh Designs
3 & 4 Feed Machines

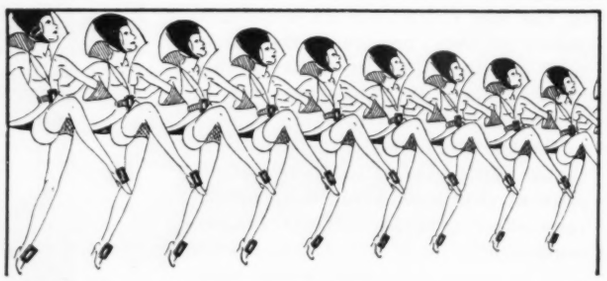
•

Let the new, modern Brinton Ribbers carry the burden of your production problems. Modernize your old ribbers, by converting to the latest styles. . . . For dependable, economical production—rely on Brintons.

Full particulars on request

CIRCULAR KNITTING MACHINES
BRINTON

3700 KENSINGTON AVENUE
Philadelphia, Pa.



Co-ordination In Costume And Action Makes the Show!

A good chorus makes a good show, but what makes a good chorus? Uniformity or coordination in both costume and action!

An array of your packages on the counter or shelves of your dealers should be like a good chorus—uniform in color or design, appealing to the eye and compelling to the purse.

"Co-ordinated Packaging" can actually increase your sales and actually decrease the cost of the packaging itself. Let us coordinate your box or carton, counter or window display, shipping container, etc., by giving them a distinctive style and identity.

May our Art Department submit designs without obligation?

OLD DOMINION BOX CO., Inc.

LYNCHBURG, VIRGINIA

Winston-Salem, N. C. Burlington, N. C. Asheboro, N. C
Pulaski, Va. Martinsville, Va. Charlotte, N. C. Kinston, N. C.

Old Dominion Paper Boxes

AVONDALE MILLS

Sycamore, Ala. — Sylacauga, Ala.

OFFER THE ADVANTAGES OF LARGE FACILITIES — QUICK SERVICE

THEY CAN READILY SUPPLY ANY TWIST, PLY, OR PUT-UP IN CARDED OR DOUBLE CARDED YARNS FOR KNITTING, WEAVING OR INSULATING IN ALL NUMBERS FROM 3's TO 40's.

Selling Agents:

WATERMAN, CURRIER & CO.

INCORPORATED

BOSTON CHARLOTTE NEW YORK
PHILADELPHIA CHATTANOOGA

ment during September with estimates for October to date being smaller than were expected earlier. It is apparent that the sharp increases in shipments made over the first half of the year have spoiled manufacturers who now look upon smaller, yet fair volume, as unsatisfactory. It is expected that the larger houses having made known that they are quoting current prices on branded merchandise until December 31, will give buyers more confidence to cover their holiday needs.

Ringless and Elastic Tops Patent Situation

The long-looked-for appeal of Julius Kayser & Co. and Textile Patents Corp. to upset the decision of Federal Judge Oliver B. Dickinson against them more than five months ago in the "ringless hosiery" patent litigation with Rosedale Knitting Co., Reading, has been taken to the United States Circuit Court of Appeals here. While there is possibility the Circuit Court may hear the appeal at its present term, it is unlikely its decision on the legality of Charles A. Kaufman's patent on a three-carrier method of knitting hosiery to eliminate rings will be forthcoming before the early part of next year. With the appeal of the ringless hosiery patent decision soon to be heard and more recently a controversy over patented elastic tops already taking on a legal aspect, the chains, wholesalers, and buyers organizations have cautioned their hosiery buyers to keep a close watch on every angle of these two important issues.

Since 1935, the big outlets have been guaranteed against loss in litigation by sellers who never took out licenses to manufacture ringless full-fashioned hosiery in accordance with the Kaufman patented method. Now, they are beginning to question manufacturers of men's and children's goods as to their position in the present elastic top case. They want also to be protected on this development inasmuch as they are all selling goods might fall into the patented classification. One chain that sells as much women's hosiery as any other was sued by the ringless patent pool for retailing an unlicensed product and likewise an individual retailer was sued. That, in itself, was sufficient to cause a rush of other buyers to their suppliers, demanding that the manufacturer take over the liability in the event they were sued.

Mill men do so in nearly every instance for otherwise it would have been difficult to continue selling ringless goods and despite invalidation of the patent by a lower Federal Court buyers are still clinging to their agreements and waiting to see what the higher Federal Court is going to do about the appeal. The present elastic tops case has loomed as equally important in the seamless field. Licensor firm for the Davis patents is asking 2 cents per dozen royalties from manufacturers who are making goods in accordance therewith. A discussion of the problem was recently held by southern manufacturers and a committee appointed to make its report at the industry conference this month in New York. But buyers are not waiting to find out what that report contains before acting. In some cases they have been placing heavier orders for such men's and children's goods for immediate delivery in hopes that such merchandise, delivered before the outcome of present negotiations between the patentee and other mills, will not be affected.

Japanese Hose Threat Minimized

Importers and distributors of men's seamless hosiery made in Japan, of which a large quantity is used in this country, have stated so far there is no increased public opposition, such as a possible boycott, to the buying of this merchandise. Importers in particular have, for some time, been watching developments of the kind, being fearful that public opposition might appear in view of war conditions in the Far East. Importers themselves, it is learned, will be inclined to go slowly in contracting for new supplies of hosiery from Japan, pending the outcome of the agitation for any extensive boycott in this country. The import situation as to Japanese hosiery has, of course, gone through a radical change in the present year as a result of the quota agreement arrived at between the National Association of Hosiery Manufacturers and hosiery exporters organization of Japan. Under this agreement the amount of Japanese hosiery in the seamless cotton end of the business is strictly limited, the effect being to cut down total imports of last year as much as 30 per cent. Some opposition to Japanese hosiery has always been noted by wholesalers and retailers in textile manufacturing centers, where employees would resent the showing of merchandise so directly competitive as the foreign country.

The threatened American boycott against silk from Japan has minimized fears of the domestic full-fashioned industry regarding imports of Japanese full-fashioned goods at a landed price at a fraction under $4.00 a dozen. Importers who have been showing samples of the foreign product concede that public reactions would make it somewhat more difficult to market silk goods with the "Made in Japan" stamp than was the case with men's and children's cheap half-hose and socks. Women's clubs are the major obstacle to the promotion of full-fashioned silk goods, whereas it appeared that nothing short of a high tariff on seamless cotton hose could stop earlier heavy imports of the latter type. In connection with full-fashioned goods, the feeling has been that Japan has shown no evidence of ability to produce goods worthy of this market. To date there has been little more than sampling of numbers brought in by importers. Buyers have found that a conventional 39-gauge style at $1.00 more per dozen than the Japanese goods cost here is a far better buy.

Decline in Yarns Causes Underwear Buyers to Delay Spring Business

The underwear market was seriously disturbed by the size of the cotton crop predicted by the Government October 8 when slightly more than 17,500,000 bales were indicated, one of the largest in our history and exceeded only by one, that of 1926, when close to 18,000,000 bales were harvested. For a time there was considerable bearish talk in the knit goods market after the report and at the same time large buyers, such as the chains, were demanding reductions on already-named spring prices. Not all did this and manufacturers were encouraged by instances where important buyers expressed the opinion that prices already quoted them were low, discounting any likely decline in the raw market from this cause.

Even before the crop report was published some manufacturers had been pressing for spring orders by lowering quotations to some large buyers but the impression was given that the reason for delay in placing next spring commitments by these buyers, whether wholesalers, chain store operators or mail order buyers, was not primarily on account of prices. Buyers were being held back by higher-ups in their companies, which are confronted with large inventories and accordingly want to see fall merchandise moving more freely before allowing their buyers to contract for next spring. At the same time, some buying from chains

"I'M JUST A *One Brand* WOMAN, NOW!"

"I've found a hosiery that is not only soft in texture, dull and sheer, but — actually — it gives me longer wear! And, it doesn't water spot . . . or pull and run as readily as other hosiery, either."

An impression like this—on *any* woman—makes her your permanent friend and customer. Which, in a few words, is WHY approximately 75 per cent of all fine quality hosiery now is "Brosco" Finished.

SCHOLLER BROS., INC.

Manufacturers of Textile Soaps, Softeners, Oils, Finishes
Collins & Westmoreland Sts., Philadelphia, Pa.
St. Catharines, Ontario, Canada.

PRESCRIPTION

FOR SOFTER, WHITER
KNIT GOODS

YOUR SKILLED EYE sees the superior whiteness of the cloth boiled with Metso Kier Assistant. Mill Superintendents say Metso gives the best white they ever had and at no greater cost.

Metso, pure metasilicate, gives more thorough dirt removal and prevents loosened dirt from resettling on the goods. Thus the goods are whiter and softer.

Check into the advantages of Metso for your mill.

PHILADELPHIA QUARTZ COMPANY

General Offices and Laboratory: 125 S. Third St., Phila., Pa.
Chicago Sales Office: 205 W. Wacker Drive. Stocks in 60 cities.
Sold in Canada by National Silicates Ltd., Toronto, Ontario.

SILICATES OF SODA

THE MODEL TD CANOPY
for High Intensity Glareless Lighting over Large Local Working Areas . .

Speed and accuracy of manufacturing, assembly and inspection operations can be greatly improved by the efficiency of this engineered lighting unit. Scientifically designed to provide a maximum of controlled illumination with a minimum of brightness and glare, Fostoria Canopy Units are available in a variety of models for specific applications. Write for full information.

THE FOSTORIA PRESSED STEEL CORP., FOSTORIA, O.

DESCRIPTIVE BROCHURE FREE A valuable handbook of localized lighting.

and mail order houses for next spring is expected shortly. The original orders probably will not represent their whole season's requirements but will be a start on the new season. Then a little later these buyers will be in a better position to place further commitments with manufacturers.

In the opinion of some agents, real buying on the part of most wholesalers for the new spring season may be delayed until about the first of November. They figure that by that time the wholesale trade will have made a good start in fall business with consequent reduction in inventories and at the same time the cotton market will have become more stabilized. In the fall end of the business, children's numbers are having a better call than any other separate part of the underwear business. Numbers like sleeping garments and regular underwear items are moving much more freely than the men's and women's goods. This is a normal condition, but it stands out more prominently this season on account of the stock position in heavy goods. Wholesalers are endeavoring to lighten stocks of heavy underwear, such as the cotton ribbed suits and shirts and drawers. Manufacturers have recently been shipping out merchandise of this kind as fast as possible but some hold-up of deliveries by wholesalers is now reported.

Wholesalers' prices on the men's cotton ribbed underwear have been soft, showing the desire to reduce inventories. Much of the anxiety of wholesalers to reduce stocks of this kind comes naturally from a feeling that the mills themselves may press more eagerly for new orders with the usual result on prices. So far nothing serious of this kind has been reported and the feeling is that it is a bad time to start such a move with wholesalers well stocked on old purchases. Yet it is known a number of mills are in need of new business on the cotton ribbed numbers. Immediate fall business with underwear mills going direct to the retailer have been of fair proportions and for several manufacturers, volume for September was running ahead of a year ago, even though September 1936 was a good month.

Polo Shirt Style Trends

Buying for the next polo shirt season has started in good volume. Buyers have become convinced that prices on the knit sport shirts and polos are right for another season. Manufacturers have done everything possible to reduce costs, which is one reason buyers in these lines are starting to operate at this time. Also and just as important is the fact that buyers realize they must give orders soon to insure deliveries that they insist on from manufacturers. With business placed right away, there would remain only about two full months of production for the balance of the year and as buyers in many instances insist on deliveries starting as early as the end of the year, it is evident that too much time is not being given mills to make shipments wanted.

The style end of the knit sport shirt buying for another season takes the form of large interest in the pull-over with crew neck. The various types of this knit shirt, plain or trim, and in different knitting, flat and ribbed, all with the crew neck are meeting with favor. This indicated trend toward the crew neck styles is welcomed by underwear mills since it means they will be relieved of much of the production difficulties that go with the numerous gadgets that from time to time have been introduced in the collar-type of polo shirt. The demand in the older styles was for a new neck-fastening from year to year with the rope and eyelet of the past season being a notable example. Buyers are also pleased to find styles so definitely set toward one finish, like the crew neck, so early in the buying season. In past seasons buyers operated early in the fall for the next spring but always with the feeling that by the first of the year something new might be brought out.

Requests for more specific data from manufacturers on the part of buyers covering construction detail as to sizes, quality of yarns, etc., are noted in underwear selling for next spring. The requests so far are coming from larger operators like those in the chains. The surmise is that with labeling of merchandise such a live subject at present, these organizations are preparing against any eventualities. Such developments might come in several ways, incorporation of fair trade practice provisions in the contemplated wages-and-hours act or through separate national legislation, as attempted at the last session of Congress, in several "Truth in Fabrics" measures or through ruling of Federal Trade Commission.

Contemplated legislation like this is of special importance to the underwear industry and has been anticipated by action months ago by the Underwear Institute which went on record favoring rules on the use of the combed label, pre-shrunk label and the weighting of fabrics. The Institute has been waiting specific action from the Federal Trade Commission, putting such rules into effect. With the agitation now evident on accuracy of labeling, it is evident that distributors are preparing to meet any demands of legislation of this kind. This explains their request for detailed information from their regular sources of supply. Irregularity in the use of "combed" label has been discussed in the underwear market for some time and buyers might naturally assume that with any legislation on "Truth in Fabrics" this might be one of the first points of investigation.

Large underwear manufacturers in Pennsylvania and New York have announced the opening of their lines of underwear, polo shirts and sweat shirts for the spring season with prices in most instances comparable to those of the opening last year. This means that wholesalers can buy numbers at prices allowing them to pass these on to retailers for old and popular price brackets. The various styles of men's athletic shirts in several instances are priced to fit in the 25-cent price range for a combed shirt, while knit brief shorts are offered to sell in the 25 and 35-cent as well as the 50-cent price brackets. Knit brief shorts are offered to sell in the 25 and 35-cent range with the latter combed number more attractively priced than a year ago. The balbriggan shirts and drawers will start again for next spring at prices to retail at 50 cents a garment and up.

While buyers are pressing for reductions in such prices following the decline in cotton since the first of this month, manufacturers in most instances have not been making many changes.

Evans is Arbitrator for Berks County Mills

ORGANIZATION of the Keystone Hosiery Manufacturers, Inc., a group of mills in Berks County, was completed at a meeting September 29. The association appointed Dr. John C. Evans, of Albright College, as arbitrator for the full-fashioned mills in that section operating under an agreement of the American Federation of Hosiery Workers. John H. Vogt, president of the Nolde & Horst Co., was elected president. This association grew out of the united front of those full-fashioned mills in the general strike early in the year. The 17 mills which signed a joint agreement with the union, formed the nucleus of the organization's membership.

REVIEW OF THE YARN MARKETS

Sharp Break in Cotton Affects Yarn Prices and Curtails Demand—Smaller Rayon Yarn Sales Than for Months—Japanese-Chinese Situation Factor in Silk

Philadelphia, October 16, 1937

THERE has been less interest in various types of yarn during the last month than any time this year even though this is the time of the year when manufacturers should be active on their fall season lines and therefore taking on sizable amounts of cotton, worsted, rayon and silk yarns. Prices except in rayon, which is unchanged when producers opened their books for the receipt of December delivery business, have been easy and especially so in cotton where the very large crop predicted by the Government October 8 has been a major factor. Silk has been slightly more active as the price reached new lows for the year but in general manufacturers are not covering far ahead until they see some of the present uncertainties relative to the Chinese-Japanese situation clarified.

Cotton Yarns

With some of the months on the futures cotton exchange dropping under 8 cents it is natural that cotton yarn prices would decline sharply but in some instances yarn prices have eased faster than the raw market decline would warrant.

This rapid decline in yarns has brought about a contraction of margins so that spinners now complain prices have reached cost or less. For this reason not all will accept other than nearby delivery business, feeling that margins will not get any worse and on the other hand may improve so that long term contracts are not wanted. On the other side, however, are the assertions of manufacturers that the policy of buying far ahead in has been discarded and from now on force for almost a year until last April, they will go back to the former hand-to-mouth buying.

Many spinners are operating only half time and in view of the advances in the last year in their overhead including taxes and labor, when they operate at such a rate they feel it more than when overhead costs were much lower. Spinners are finding it difficult to secure specifications on old contracts taken at much higher prices and during the month several meetings have been held by the carded yarn group at Charlotte with the idea of studying ways and means of correcting this undesirable situation.

Cotton yarn prices have touched new lows this month and in some cases they are 3 cents under the level this time last month. The softest has been carded knitting yarns which a month back were held at 21 cents basis 10s and the same sellers at present are soliciting business at 18 cents but in carded weaving numbers such as 20s and 30s two-ply the declines in the last month have been less impressive than in knitting. Warps like 20s and 30s two-ply have declined only about 1½ to 2 cents compared with 3 cents in the knitting. This is due to the drastic declines suffered by carded weaving in the previous two months while knitting held relatively better.

Several mercerizers reduced prices on October 11, this being the second cut by this group in about a month, bringing 60s two-ply ungassed down to 67 cents compared with a 1937 peak of 79 cents. It brings these yarns down to a basis comparable with that of last year when coverage was heavy but up to the present time there have been few indications that a large movement in these qualities was close at hand. The new mercerized list means that knitters of anklets and other seamless hosiery can figure yarn costs about the same as this time in 1937 but knitters say higher wages and other overhead make it difficult to name prices the same for these goods if profits are to remain undisturbed.

Worsted Yarns

With a decline in the wool markets here and abroad together with a drop of 10 cents in the wool top futures market, worsted yarns have suffered their most impressive decline of the year. This, as is usually true of all declining markets, has seen buying interest dry up even though October and November should be two of the best months of the year for the sale of such yarns. In general worsted yarns are 10 cents lower than last month with most of the cuts having been made around the middle of October.

While some 2-50s fine for dress goods use have been sold for immediate consumption for use in fall and winter coats and dress materials the market has been generally without important demand. Men's wear mills are not buying even though they have opened their lines for spring 1938 and also tropicals for next summer. Goods orders are not being placed and this makes it impossible for weavers to take on yarns especially when they feel wools and tops will go lower bringing about additional declines in worsted yarns.

Outerwear manufacturers who should be in the midst of making winter goods are doing little, most of the knitters being ready to admit there the fall season with them will not amount to much. Manufacturers say their customers overbought early this year to beat expected price increases so that with a less active movement of these since experienced they are not in position now to take on additional goods until retailers and jobbers get rid of some of these accumulations.

Swimsuit makers have opened their 1938 lines but they are booking little business, most customers saying that lower wool prices make them postpone new commitments until the markets stabilize. Some bathing-suit makers are going to try creaper yarns next year and spinners offer cotton core yarns to imitate suits formerly made from 1-18s all worsted.

Rayon Yarns

Manufacturers are less anxious to take on rayon yarns than they were earlier this year so that during recent weeks producers of rayon yarns have been able for the first time in many months to accumulate larger stocks. Some have added considerably to their stocks but at the same time report that this could proceed for some weeks ahead before they would even build stocks considered adequate. It will be recalled that during the buying boom that continued until two months ago stocks of rayon yarns in producers' hands reached a very low ebb, so much in fact that they did not to all intents and purposes exist.

With the demand from the knitting and weaving trades considerably smaller and with producers accumulating stocks of yarn larger than have existed for some months, there is discussion as to whether the producer should begin curtailing production in the near future and there is evidence that if demand does not broaden in the next few weeks, such a program will be adopted by several. Curtailment of demand from the weaving trade has been the main reason for this situation and manufacturers of these lines that were formerly running three shifts a day are now finding it rather difficult to secure orders for half that.

Silk

Silk has been declining over the last month and at present prices have reached a level approximately 40 cents under that reached in January of this year. There have been two main factors in bringing this about. First, the Japanese-Chinese war situation and secondly, the smaller consumption by American mills. In addition to these, the market has had another handicap in the talk of a boycott on Japanese goods. Even though prices have declined to an important extent, American manufacturers have not begun as yet to cover heavily. There has been an increase in interest from the hosiery trade at the levels reached early this month but the buying movement did not expand into large proportions and most buyers are inclined to cover their nearby needs only. With the hosiery industry taking about three-quarters of the silk, this industry which should now be operating at a high rate on its fall and holiday lines, instead is curtailing production.

SLASHING
• WEAVE-WELL •
PRODUCTS
FINISHING
• FINISH-RITE •
PRODUCTS
SHUTTLE
• GREASE-RITE •
TALLOW

"IN UNION THERE IS STRENGTH"

Every NORTH SERVICE man is a practical mill man with many years of experience. When he comes to your mill, his knowledge and experience combined with the knowledge and experience of your own men, form a union capable of solving the most difficult sizing problem, and always results in a more salable product for the mill.

The NORTH SERVICE man not only investigates thoroughly your particular methods and systems of sizing, but he is backed up with NORTH laboratory service in testing your raw cotton, sized and unsized warp and cloth, determine moisture content, dry size and other conditions.

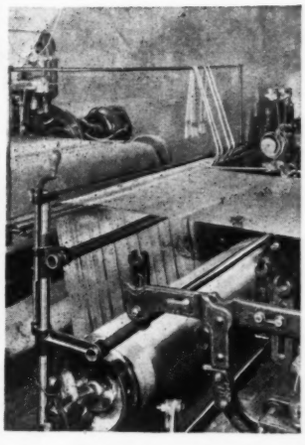
Let's get together and solve your sizing problems once and for all. Call on us for a NORTH SERVICE man today.

NORTH PRODUCTS

FRANK G. NORTH INCORPORATED

Manufacturing Chemists

P. O. Box 844, Phone Main 3230, ATLANTA, GA.
P. O. Box 92, Phone 250, MARIETTA, GA.



DEPENDABILITY
PERFECT WARPS FOR LOOMS

FOR -ACETATE- -ORGANZINE- -SPUN AND RAW SILK WARPS- ANY NUMBER OF ENDS PER INCH

ALSO WARP KNOTTING MACHINES FOR CREPE

EXPERT SERVICE

BIG SAVING OVER HAND TWISTING

DON'T BUY ~ LEASE A

LOW UPKEEP

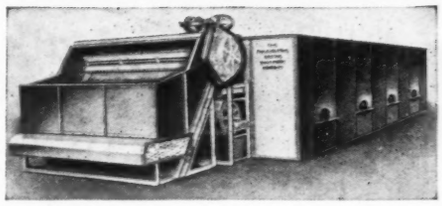
PORTABILITY USED IN THE LOOM—OR AWAY FROM THE LOOM

WARP TWISTING-IN MACHINE

WARP TWISTING-IN MACHINE CO.
9 East 40th Street **New York City**

Sales Representatives: *SIPP-EASTWOOD CORP., Paterson, N. J.*

HIGH-SPEED DRYING
Cuts Costs, Improves Quality

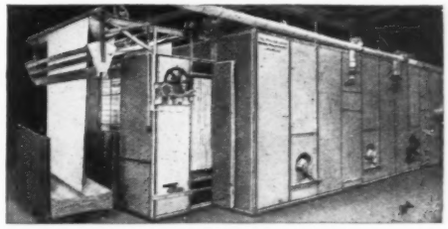


NEW "HURRICANE" STOCK DRYER

assures more thorough, uniform, faster drying by forcing air THROUGH the stock under very high pressure. Greatly increased capacity. Reduced operating costs.

NEW AUTOMATIC LOOP DRYER WITH TURNING POLES

often reduces operating costs 33⅓% to 50%. The ideal Dryer for crepes, pile fabrics, knit goods etc. — for SHRINKING wool and cotton cloth — also for CREASE-PROOFING



ALSO NEW Hi-Speed TENTER Dryers
NEW Hi-Speed VACUUM Extractors
Skein Yarn, Warp and Package Dryers

THE PHILADELPHIA DRYING MACHINERY CO.
3351 Stokley Street, Philadelphia, Pa.
DRYERS for ALL Textiles from Raw Stock to Finished Fabrics

Like the well-known duck's back, your hosiery or piece goods repel water after a Laurel Splashproof treatment —the new splashproof, waterproof and non-coating finish which adds the extra life and service your trade demands.

LAUREL SOAP MANUFACTURING CO., Inc.
Wm. H. Bertolet's Sons
Established 1909
2600 East Tioga Street Philadelphia, Pa.
Warehouses
Charlotte, N. C. Paterson, N. J. Chattanooga, Tenn.

PROPER scouring sets the stage for high quality Rayon fabrics Even dyeing, bright shades, soft feel, successful finishing — all reflect the scouring preparation.

RECOGNIZING this vital importance, Onyx chemists have developed a group of unusually effective scouring agents to meet the special needs of Rayon and Acetate fabrics. These scourers have every essential for speed, safety, thoroughness and economy.

WRITE in detail of your procedure and fabric, to get sample and recommendations for use. Demonstration on request.

Onyx Oil & Chemical Co., Jersey City, N. J.

Specialists on Finishing Materials

Southern Repr.: E. W. Klumph, Charlotte, N. C.
New England Off.: 100 Fountain St., Providence, R. I.
Midw. Repr.: Maher Color & Chemical Co., Inc., Chicago.

For SCIENTIFIC SCOURING AGENTS - call on Onyx!

UNIVERSAL
STANDARD RING TRAVELERS

BEST MEET THE SPECIFIC REQUIREMENTS FOR SPINNING AND TWISTING

THE BOWEN PATENTED BEVEL EDGE TRAVELER
VERTICAL OFFSET TRAVELER
FOR
EVEN SPINNING AND TWISTING
VERTICAL NE-BOW TRAVELER
FOR
SILK, RAYON AND FINE WORSTED YARNS. A TRAVELER THAT WILL NOT UNTHREAD. ESPECIALLY DESIGNED FOR LUBRICATING RINGS.

Write For Samples and Particulars

U. S. RING TRAVELER COMPANY

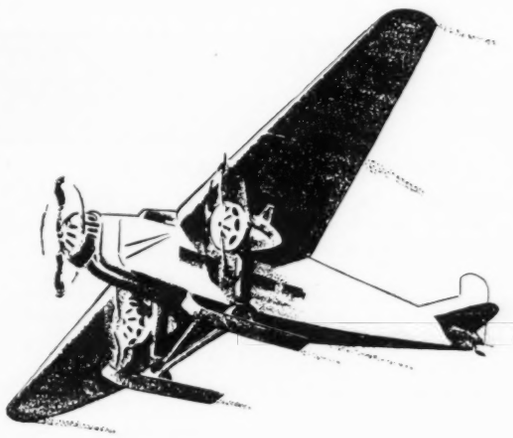
PROVIDENCE, R. I. GREENVILLE, S. C.
AMOS M. BOWEN
Pres. and Treas.
Southern Sales Representatives
Wm. P. Vaughan, Greenville, S. C.
Oliver B. Land, Athens, Georgia
Torrence L. Maynard, Belmont, N. C.

"A TRAVELER FOR EVERY FIBRE"

FLEISCHMANN'S Diastafor

"SOLVES De-Sizing PROBLEMS"

Diastafor Department
STANDARD BRANDS INCORPORATED
691 Washington Street, New York, N. Y.



What COLLECTIVE THINKING Has Done for Exploration It Can Also Do for Textile Finishing

In 1492 Christopher Columbus crossed 3,800 miles of Atlantic ocean in 45 days and discovered a new continent. His discovery has gone down in history as a monument to INDIVIDUAL courage and individual thinking. However, from the standpoint of actual achievement Admiral Byrd's airplane flight to the North Pole in 1926 overshadows Columbus's voyage, for Byrd crossed 1,600 miles of barren ice fields in 15½ hours. To Byrd alone goes the credit for individual conception, but he would be the first to admit that his performance would have been impossible without the COLLECTIVE THINKING of specialists in many different fields.

COLLECTIVE THINKING is also a means to greater achievements in textile sizing, printing, and finishing. It is available to even the smallest plant or department through A-H Consultation Service. This service is rendered free of charge by a staff of specially trained chemists, assisted by a complete, modern laboratory and a company experience of 122 years.

What are YOUR sizing, printing or finishing problems? Write us about them, or tell them to our representative, and let us combine our experience with yours toward a profitable solution.

CHEMICALS

Sizing and Finishing Gums and Compounds . . Soluble Gums . . . . Softeners . . Soluble Oils . . Tallow . . Waxes . . Soaps . . Flour . . Dextrines . . Starches . . Pigment Colors and Lakes . . Ammonia . . Acids . . Blue Vitriol . . Borax Bichromate of Soda . . Bichromate of Potash . . Liquid Chlorine . . Chloride of Lime . . Caustic Soda (solid or flaked).

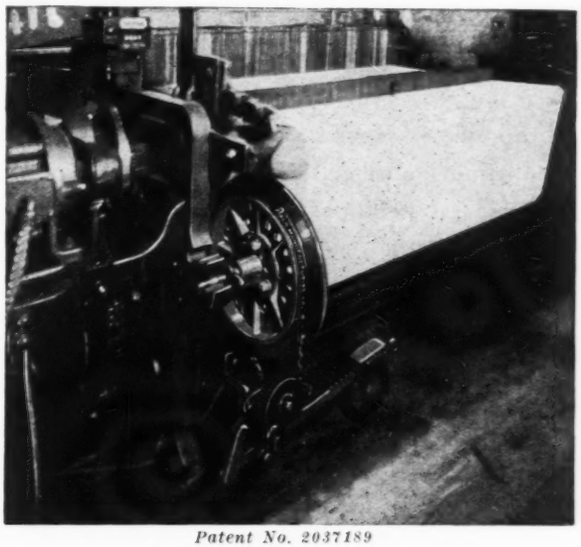
ARNOLD, HOFFMAN & CO., Inc.

Established 1815. Plant at Dighton, Mass.

PROVIDENCE, R. I.

New York . . Boston . . Philadelphia . . Charlotte

200% RETURNS IN 12 MONTHS



Patent No. 2037189

WITH F. M. C. LET-OFFS

With costs so low and returns so high, no time is better than RIGHT NOW to equip your looms with F. M. C. Let-Offs! For this asbestos friction loom let-off eliminates "messy" and expensive beam head lubricants. It antiquates rope, leather and chain let-offs. It is not affected by atmospheric conditions. It steps up loom production by eliminating loom stoppage due to let-off troubles. It improves cloth quality by giving you uniform let-off. Results show that F. M. C. Let-Offs will pay for themselves in three months and pay dividends of from 200 to 300% in 12 months—a gift of approximately $5,000 plus, if you have as many as 1,000 looms. The nation's outstanding mills are using F. M. C. Let-Offs.

F-M-C Asbestos Brake Tape for loom brakes, ribbon and sliver lappers, extractors, warpers and under picker-head blocks. Last longer than cork, leather or other types of brakes. Not affected by oil, grease or humidity. Write for sample.

F-M-C Asbestos Even Tension Slasher Cord is another product that will save you money. Made in ¼", 5/16" and ⅜" diameters. Write for sample.

Write for FREE SAMPLES and PRICES, TODAY!
OVER 150,000 now in use.

FIBER MFG. CO., NEWTON, N.C.

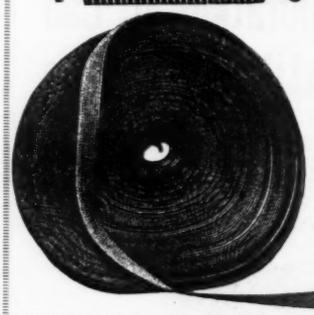
...no matter
WHAT you bleach

Whatever the nature of the fabrics you are now bleaching, BECCO Hydrogen Peroxide backed by BECCO Technical Service can bring new advantages. A BECCO Engineer, thoroughly experienced in modern bleaching problems, is prepared to assist you. Permit us to demonstrate.

BECCO

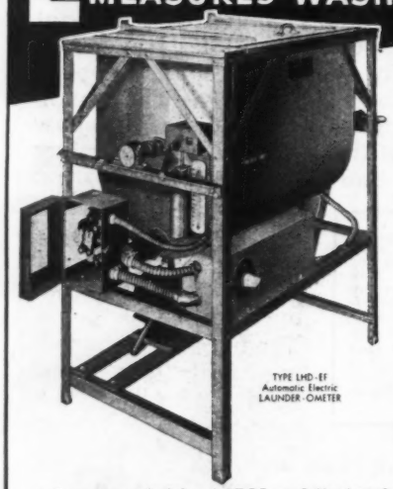
BUFFALO ELECTRO-CHEMICAL CO.
BUFFALO, NEW YORK
Boston . New York . Philadelphia . Chicago
Charlotte

DRONSFIELD'S PATENT
"ATLAS BRAND"
EMERY FILLETING
"The New Flexible" "Needs No Damping"
Stocks in all the leading Mill Centres
TRADE MARK ATLAS
The Standard Card-Grinding Medium
GUARANTEED "A" QUALITY
THE ONLY QUALITY WE MAKE
Used the wide world over, like
The DRONSFIELD CARD-GRINDERS



Stocked by the
Principal
Mill Supply Houses
Sole Agents for Dronsfield's Machinery for U. S. A.:—
John Hetherington & Sons, Inc.
250 Devonshire St.
Boston, Mass.

LAUNDER-OMETER
MEASURES WASHING ACTION



TYPE LMD-EF
Automatic Electric
LAUNDER-OMETER

WASHING TESTS
MECHANICAL ACTION
COLOR FASTNESS
STAINING
DRY CLEANING
DETERGENTS

Recommended by AATCC and National Bureau of Standards

Also Originators and Sole Manufacturers of FADE-OMETER

Write For
16 Page Catalog

ATLAS ELECTRIC DEVICES CO.
387 W. Superior Street, Chicago

Kali

Products for all textile Purposes

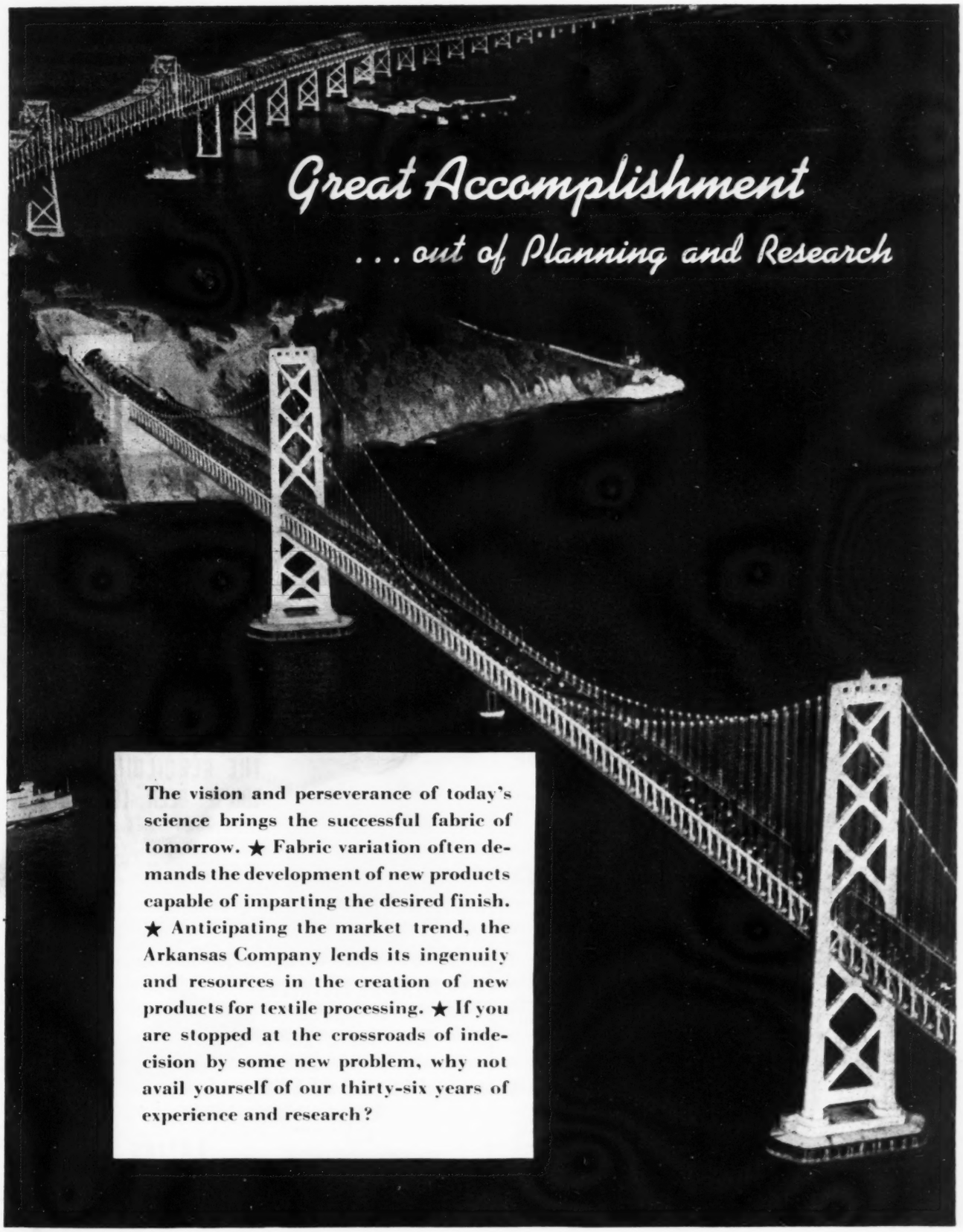
WATER-SHIELD (HYDROXY K-7-H)
One Bath Waterproof
Easily dispersed in the bath.
Can be run at room temperature.

HYDROXY FINISHING OIL C 6
Used in place of Sulphonated Olive with better results and a saving.

HYDROXY DRY GRANULAR SIZE
for
Acetate, Viscose, Bemberg and Spun Rayon

HYDROXCENE
for
Treating Rayon Crepe Fillings

KALI MANUFACTURING CO.
1410 NO. FRONT STREET, PHILADELPHIA, PA.


Great Accomplishment
. . . out of Planning and Research
The vision and perseverance of today's science brings the successful fabric of tomorrow. ★ Fabric variation often demands the development of new products capable of imparting the desired finish. ★ Anticipating the market trend, the Arkansas Company lends its ingenuity and resources in the creation of new products for textile processing. ★ If you are stopped at the crossroads of indecision by some new problem, why not avail yourself of our thirty-six years of experience and research?

ARKANSAS CO · INC

233 BROADWAY · NEW YORK

PARAPON • AQUAROL • DIAZONOL AC • ARKOGEL • DELUSTROL • HYDROSULPHITE AW • DECERINOL • STRIPPER TS

CIBA

MIGASOL PJ
FOR
WATER
REPELLANT
FINISHES

ONE
SIMPLE
APPLICATION

CIBA
COMPANY
INCORPORATED
NEW YORK
CIBA COMPANY, LIMITED
MONTREAL, P. Q., CANADA
Representing
Society of Chemical Industry in Basle,
Vat Dyes of the
Dow Chemical Company, Incorporated
OFFICES
IN MAIN TEXTILE CENTRES

DYES FOR MASTER DYERS

Campbell Announces

A NEW ACETATE Color!

CAMACYL
BRILLIANT BLUE FFG

Compare it for brightness and value with any Acetate Blue on the market!

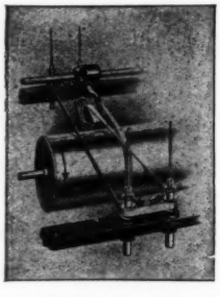
Camacyl Brilliant Blue FFG is the latest development in the Campbell line. You will find it unsurpassed in brightness, fastness to light, level dyeing and quick dyeing. It leaves rayons unstained and piles up.

Camacyl Brilliant Blue FFG is excellent for many uses. In combination with Camacyl Brilliant Yellow 5GL, it produces exceptionally bright greens. It may be dyed in the jig and box.

Write for sample and prices

JOHN CAMPBELL & CO.
75 Hudson St., New York City
Branches and Warehouses: Concord, N. C. Burlington, N. C.
Chicago Boston Providence Philadelphia

IT'S COMPLETE



THE REBUILDING SERVICE YOU'VE BEEN LOOKING FOR

If you wish to save money on the cost of new equipment, just take your worn card screens, picker screens, spinning frame cylinders, drying cans, etc., and "Send Them to Gastonia." Here, in a complete, up-to-date plant, with expert workmen, is a complete service for repairing and rebuilding textile equipment. You can also save much time and delay experienced in shipment of new equipment.

SPINNING CYLINDERS

We are fully equipped to make new spinning cylinders or repair your old ones, making them as good as new, at a great saving to you.

CARD SCREENS

The rebuilding of card screens is one of our specialties. We have a complete stock of parts for all makes of card screens, as well as picker screens.

DRYING CANS

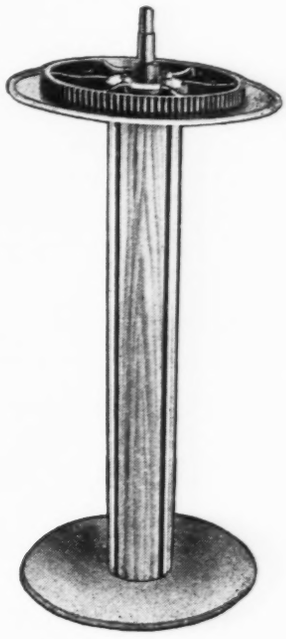
Just send your cans to Gastonia and you will receive them back in perfect condition quicker and at a saving.

You take no chances on Gastonia Service. Every job is guaranteed and quick service is assured. Write for full information today.

GASTONIA TEXTILE SHEET METAL WORKS, INC.
222 E. LONG AVE. GASTONIA, N. C.
CONVEYOR SYSTEMS—GENERAL SHEET METAL WORK

Runs true to form!

WEST POINT LOOM BEAMS



West Point Beams run true! The heads are equidistant at all points! Therefore, an even amount of yarn winds on the beams AT ALL POINTS! *Thus no high and low places at the edge of the warp, and consequent bad selvage!*

The heads have the proper thickness of material at what would otherwise be weak points. The pockets are machined inside so the barrels fit *snugly*. The heads and inside of pockets are finished with a special metal paint to prevent rust and consequent staining of the yarn.

WEST POINT BEAM BARRELS are made of suitable wood which is thoroughly seasoned, air dried, then kiln dried to a proper moisture content. They will not warp.

The journals are made of a special tough plow steel. *This increases their life at least 50%.* They are machined absolutely true and straight, and the heads are bored so the journals fit into them tightly *and stay put!* Before shipment all beams are assembled in our plant and heads checked for trueness!

These are important factors in West Point Loom Beams which make them so efficient. A trial of these loom beams will demonstrate how they can actually improve and increase your production without added cost. *May we convince you?*

Also manufacturers of special machinery, cloth room machinery, textile machinery repair parts and gears.

BEAM BARRELS

BEAM HEADS

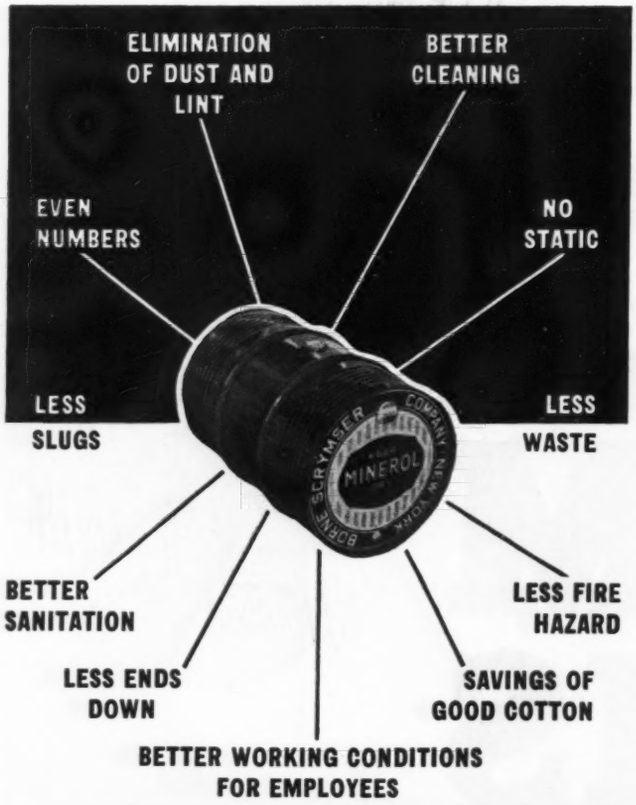
Nothing Too Large or Perp!exing

Nothing Too Small or Intricate

WEST POINT FOUNDRY & MACHINE CO.

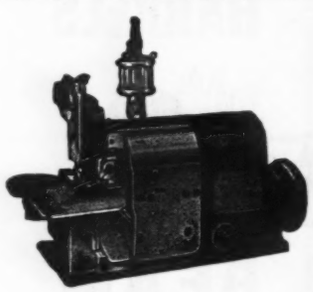
(Batson-Cook Company, Owners)

WEST POINT, GEORGIA



BORNE SCRYMSER COMPANY
Originators of the BRETON MINEROL PROCESS for CONDITIONING COTTON
17 BATTERY PLACE · NEW YORK

TRADE MARK



MERROW

REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES

HIGH SPEED TRIMMING AND OVER-SEAMING OVEREDGING AND SHELL STITCH MACHINES

FOR USE IN THE FABRICATION OF KNITTED AND WOVEN GOODS OF ALL KINDS.

—200 VARIETIES FOR 200 PURPOSES—

WRITE FOR DETAILS REGARDING
MERROW STYLES 60ABB AND 60D3B MACHINES
PRODUCING A FLAT BUTTED SEAM (AS ILLUSTRATED BELOW) TO FACILITATE SUBSEQUENT PROCESSING OF TEXTILES

FINISHERS REPORT DEFINITE SAVINGS BOTH IN LABOR AND FABRIC. LET US DEMONSTRATE WORK OF THESE MACHINES ON YOUR OWN PRODUCT.

THE MERROW MACHINE COMPANY
16 LAUREL STREET HARTFORD, CONN., U. S. A.

E. W. Hollister, P. O. Box 721, Spartanburg, S. C.
R. B. Moreland, P. O. Box 985, Atlanta, Ga.

ATTENTION! FINISHERS!

Have You Secured Your Copy of

"FINISHING MATERIALS" ?

THIS valuable book is composed of a series of articles by J. Andrew Clark, Chief Chemist, Dutchess Bleachery, Inc., Wappingers Falls, N. Y., prepared especially for COTTON.

The articles created such interest and favorable comment among the industry, and theer was such a demand for extra copies, it was decided to reproduce them in book form. The material is unique in literature on this subject and provides a source of information and experience to the operating executive which is fresh, up-to-date, practical and usable in every-day finishing plant operation.

The book covers, generally, those basic raw materials used in the finishing processes for cotton piece goods. It includes a number of the newer materials and practices which cannot be found in any standard textbook.

In addition to, and in connection with, a discussion of the uses of these materials in the plant, the author has given, interestingly, something of the source, background and production of these finishing agents.

All of this information is now available in convenient book form and will prove a dependable, practical, usable volume for the finisher. There are 113 pages and 25 illustrations. This book cannot be bought for any amount of money, but it can be secured FREE in conjunction with a three-year new or renewal subscription at $2.00.

COTTON

The Textile Manufacturing Journal

Published by the
W. R. C. Smith Publishing Company
GRANT BUILDING ATLANTA, GA.

Here's why you never grind TUFFER Card Clothing when you first put it on

TRADE MARK
TUFFER
REG. U.S. PAT. OFF
CARD CLOTHING

TUFFER saves time and money right at the start. You begin to profit even before you use Tuffer Card Clothing on your cards, because TUFFER is handled in our plant by long-experienced grinding craftsmen. Grinding Tuffer Card Clothing is a very vital process. Sides and surfaces are ground to rigid specifications for uniformity. Every inch has a final inspection and trimming before shipment, so that you can clothe your cylinders and start operations without any lost time.

A Wool Carder writes, "Of course, I never grind your Card Clothing when I first put it on. It comes so uniform, even, and with such an excellent point."

HOWARD BROS. MFG. CO.

HOME OFFICE AND FACTORY: WORCESTER, MASS.
Southern Plant: 244 Forsythe St., Atlanta **Branch Offices:** Philadelphia, Dallas

Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards — Napper Clothing, Brush Clothing, Strickles, Emery Fillets, Top Flats Recovered and extra sets loaned at all plants — Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant — Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted Eye and Regular Wire Heddles

for Assured Uniform Quality
and Dependability - - - Use

VICTOR
MILL STARCH

"The Weaver's Friend"

• Boils Thin • Has More Penetration
• Carries Weight into the Fabric

Distributed by

DANIEL H. WALLACE Southern Agent **Greenville, S. C.**

C. B. ILER—Greenville, S. C.
F. M. WALLACE—Birmingham, Ala.
L. J. CASTILE—Charlotte, N. C.

THE KEEVER STARCH CO., COLUMBUS, OHIO

This is the Age OF SPEED and HIGH DRAFT SPINNING

Ring Travelers of greater advantage are necessary. Wentworth Double Duty, Wentworth Gravity, Gravity Express and Lowboy meet these new requirements.

New Duplex Twister Travelers — C. E. F. Twister Travelers

NATIONAL RING TRAVELER CO.
PROVIDENCE, R. I. - CHARLOTTE, N. C.

Southern Office: — 131 West First St., — Charlotte, N. C. — C. D. Taylor, Southern Agent
Southern Representatives L. Everett Taylor, H. B. Askew, P. O. Box 272, Atlanta, Ga.—Otto V. Pratt, Union Mills, N. C.

TAKE YOUR HUMIDIFICATION PROBLEMS TO A

Humidification Specialist

Years of experience in process studies of cotton, woolen, worsted and rayon manufacture have provided the right Amco equipment for every job, and the specialized knowledge that makes for its efficient installation and operation.

AMERICAN MOISTENING COMPANY
Providence, R. I.
BOSTON . . . ATLANTA . . . CHARLOTTE

J. E. SIRRINE & COMPANY
Engineers

Appraisals; Consultation; Design; Estimates; Hydro-Electric and Steam Power Plants; Paper and Pulp Mills; Water; Waste Disposal; Plans, Specifications and Supervision; Steam Utilization; Textile Mills.

GREENVILLE SOUTH CAROLINA

Through The Centuries With Alkalies

Among the earliest people to use soda ash were the Phoenicians. While cooking on blocks of natron, an impure form of carbonate of soda, they found that the fire caused the natron to combine with sand to form silicate of soda, or glass. Here they are shown trading glassware and textiles with the Britons under the cliffs of Cornwall.

The development of refined soda products by THE COLUMBIA ALKALI CORPORATION enables industry to rely on a product chemically pure and uniform so that quality results in applications are insured. By production in forms and grades best suited to the particular industry served; by shipments in containers and units which meet individual mill requirements, COLUMBIA adds service to quality in a way which accounts for the steadily increasing demand for COLUMBIA Alkalies, Liquid Chlorine and other products.

SODA ASH
CAUSTIC SODA
SODIUM BICARBONATE
MODIFIED SODAS
CALCIUM CHLORIDE
LIQUID CHLORINE
CALCENE

COLUMBIA

THE COLUMBIA ALKALI CORPORATION

BARBERTON • OHIO

NEW YORK CHICAGO BOSTON PITTSBURGH
CLEVELAND CINCINNATI ST. LOUIS MINNEAPOLIS

DARY RING TRAVELERS

The Dary Ring Traveler is the result of 40 years' experience and an enormous amount of research and experiment in high speed traveler manufacture. Dary Ring Travelers are made from *specially drawn stock* by the finest of skilled craftsmen. They are *guaranteed in weight, temper and style.* Write for samples and prices today.

THE DARY RING TRAVELER CO., TAUNTON, MASS.

B. G. DARY, Treasurer.

CHARLES L. ASHLEY, Box 720, ATLANTA, GEORGIA. JOHN E. HUMPHRIES, Box 843, GREENVILLE, S. C.

SOUTHERN SIZING CO.

ATLANTA, GA.

P. O. BOX 167

MANUFACTURERS OF

QUALITY SOFTENERS FOR SLASHING AND FINISHING

BOSSON & LANE, INC.

Manufacturing Chemists

Established Jan. 1, 1895

Works and Office, Atlantic, Mass.

HIGH GRADE CASTOR OIL PRODUCTS

Sulphonated-Saponified

Soluble Oils Para Soap Oil

Turkey Red Oil Castor Soap Oil

Soluble Pine Oil B & L Bleaching Oil

PENETRANTS

BINDOL - ALPHASOL

Bleach Softener CSO,

Finishing Sizings and Softeners

VICTROLYN,

the economical assistant in warp sizing.
Penetrating, Lubricating and Wholly Efficient.

B & L BLEACHERS' BLUINGS AND VIOLET TINTS

GOOD MONEY VALUES--FREEDOM FROM WORRY

Southern Representative:
J. Frank Richardson, Jr., Tryon, N. C.

THE DENISON MANUFACTURING CO.

Asheville, N. C. . . . Established 1915

SOLICITS the job of improving the appearance of your mill floors. This can be better accomplished with the usual scrubbing — in a slightly different way — and by the use of

Mi-CLEANSER

Correspondence is invited.

TELEPHONE 729 WORKS: N. MARIETTA ST.

BARKLEY MACHINE WORKS

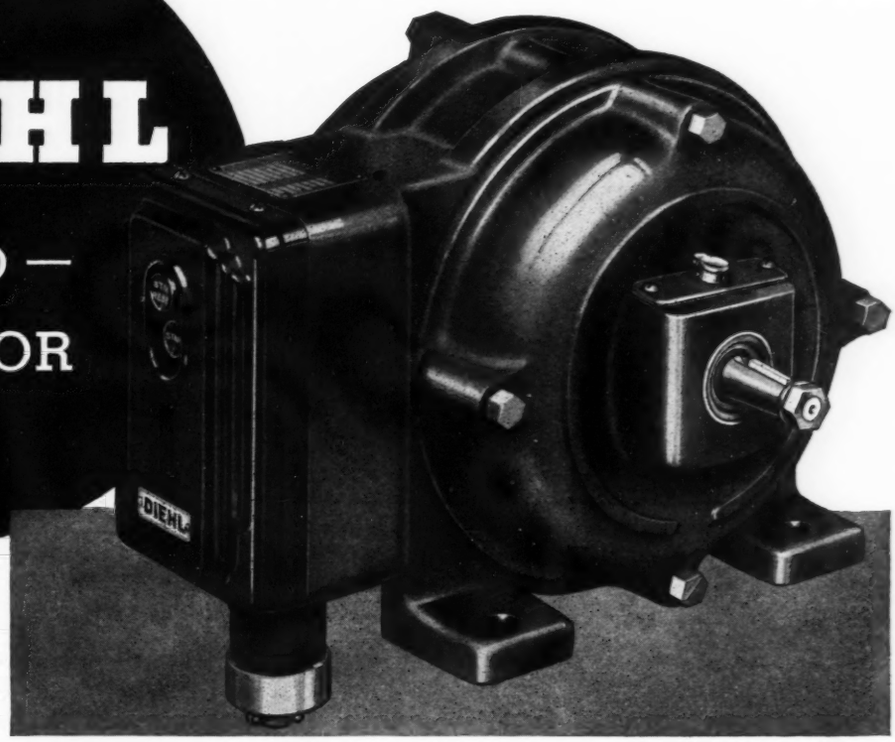
MANUFACTURERS OF

TEXTILE MACHINERY PARTS

GASTONIA, NORTH CAROLINA

DIEHL

UNIFIED—
TEXMOTOR



AN OUTSTANDING IMPROVEMENT IN LOOM MOTOR DESIGN

Textile men have been quick to grasp the advantages of the Diehl UNIFIED-TEXMOTOR. Retaining the well-known characteristics of Diehl Loom Motor efficiency and performance, the UNIFIED-TEXMOTOR further provides a built-in switch of unexcelled quality. Compactness, ease of installation, minimized maintenance and facility in disconnecting from the line without affecting neighboring units are but a few extra features of the Diehl UNIFIED-TEXMOTOR.

Investigate the merits of this development for application to your new looms, or for replacements on existing equipment.

SWITCH FEATURES

Three pole; push button operated; quick make-and-break; twin-break silver-to-silver contacts—no pigtails; safety catch prevents unauthorized operation; all metal parts rust-proof—cadmium plated; mechanism mounted on rubber preventing loosening of connections due to vibration; eutectic thermal overload protection—free-tripping type; overload relay—after tripping, reset by merely pushing button; interchangeable for all horsepower sizes within rating by changing thermal heater coils.

MOTOR FEATURES

Totally enclosed; dust sealed, waste packed sleeve bearings which require little maintenance; tapered shafts permit ready mounting and dismounting of pinion; operating characteristics meet all modern requirements for high power factor and efficiency; cool in operation; adequate starting torque with high inertia rotor; ample overload capacity; special mechanical or electrical modifications obtainable for large installations.

DIEHL MANUFACTURING CO., Elizabethport, N. J.
Electrical Division of THE SINGER MANUFACTURING CO.
ATLANTA BOSTON CHICAGO DALLAS NEW YORK PHILADELPHIA
Textile Dept., P. N. Thorpe & Co.—267 Fifth Ave., New York

INDUSTRIES SAVE

BY USING THIS TRIPLE-ACTION OIL

3-IN-1 OIL

Lubricates • Cleans
Prevents Rust

Since 1894, Triple Action 3-In-One Oil has been used and recommended by thousands of textile mills, factories, railroads, ships, etc. for high speed equipment. It is really a scientific blend of the finest oils obtainable—that's why it lubricates without gumming, keeps bearings cleaner, prevents rust and costly repairs.

The A. S. Boyle Co., *Distributors*
257 Cornelison Ave. Jersey City, N. J.

THE LIFE OF YOUR MACHINERY

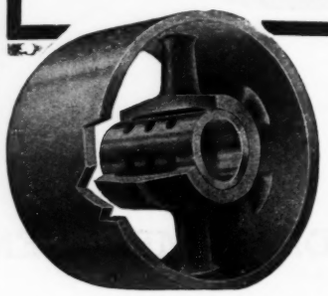
SMOOTH, frictionless operation of textile machinery determines its life. Vibration can usually be traced to a worn bushing and it takes a good bushing to endure the merciless punishment of speed, stress and shock without perceptible wear and with minimum care.

MOCCASIN Oil Distributing Bushings are noted for their long life—some users have reported no sign of wear after ten years service. They require the minimum of care, as they are self-oiling and need replenishing only two or three times a year. They do not throw or drip oil.

Let MOCCASIN Bushings help lengthen the life of your machinery, as well as reduce power loss and oil consumption, not to speak of less labor, less shut-downs, less oil spotted fabrics, oily floors, etc.

Try a MOCCASIN Bushing on your most troublesome bearing.

MOCCASIN BUSHING CO., CHATTANOOGA, TENN.
Makers of Brass and Bronze Castings of Every Description.



MOCCASIN OIL-DISTRIBUTING BUSHINGS

Henderson TEXTILE Repair Parts

THEY last longer because they are reinforced at the places where ordinary parts break.

They fit more accurately and operate more smoothly at higher speeds because they are made from precision patterns by expert workmen.

Write today for prices
HENDERSON FOUNDRY & MACHINE WORKS
HAMPTON, GEORGIA

Fully 25% of All Cotton Textile Spindles in the United States are Operated on the Loper System.

Ralph E. Loper Co.
INDUSTRIAL ENGINEERS

Specialists in Textile Costs Over 24 Years
FALL RIVER, MASS. GREENVILLE, S. C.

We check credits, assume credit losses, and cash sales!

Correspondence Invited

John P. Maguire & Co., Inc.
Factors
370 FOURTH AVENUE NEW YORK CITY
Southern Representative: TAYLOR R. DURHAM, Charlotte, N. C.

The MYSTERY of the Slasher Room

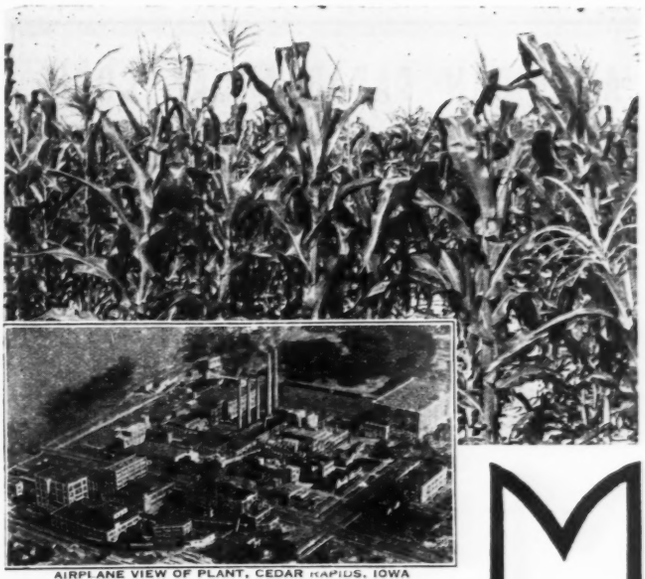
—and here's the key

PROSPERIN

THE mystery of every slasher room is a problem which can be solved by the use of PROSPERIN—the new scientific starch extender which comes in handy tablet form. PROSPERIN will process any grade or type of starch efficiently, does not change handling methods, saves cooking time, saves 20% of the starch, eliminates souring of sizing batches and assures more perfectly sized warps —greater penetration, greater tensile strength, better "feel."

A line to us today will bring you full details.

HUDSON INDUSTRIAL CO.
27 EAST 22nd ST. NEW YORK, N.Y.



AIRPLANE VIEW OF PLANT, CEDAR RAPIDS, IOWA

KING CORN
Serves
KING COTTON

U. S. average acreage — 100,000,000. Equivalent 156,250 square miles.

Normal annual production—2,500,000,000 bushels.

DOUGLAS

Textile starches, dextrines, gums, sugars and syrups have a reputation for highest quality and uniformity of many years standing.

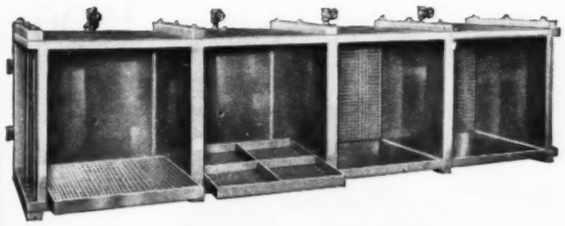
Our laboratory and service department can assist you in your sizing and finishing problems.

PENICK & FORD, LTD., INC.

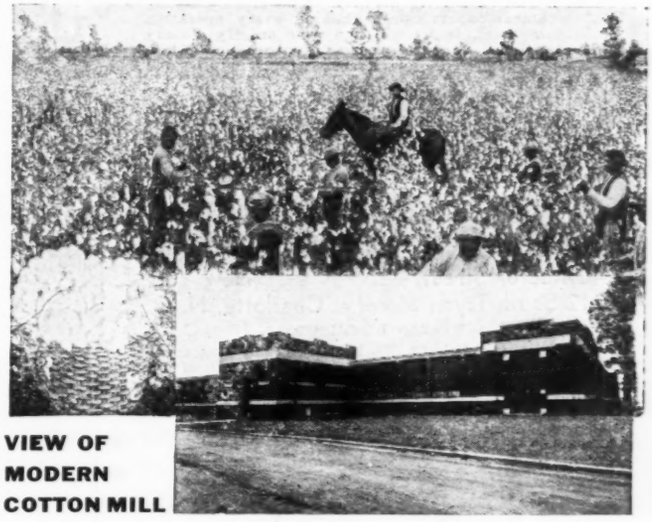
NEW YORK, N. Y. ATLANTA, GA. CEDAR RAPIDS, IOWA

DIRECT SERVICE

IT'S TIME TO BUY TANKS FROM HAUSER-STANDER AND LEARN WHAT A BIG DIFFERENCE A FEW DOLLARS MAKE



THE HAUSER STANDER TANK CO.
STA. W. CINCINNATI, O.



VIEW OF MODERN COTTON MILL

AMERICAN CASABLANCAS CORP.
JOHNSTON BLDG. CHARLOTTE, N. C.

SOLE LICENSEES IN U. S. A. FOR

The Improved
CASABLANCAS

LONG DRAFTING SYSTEM

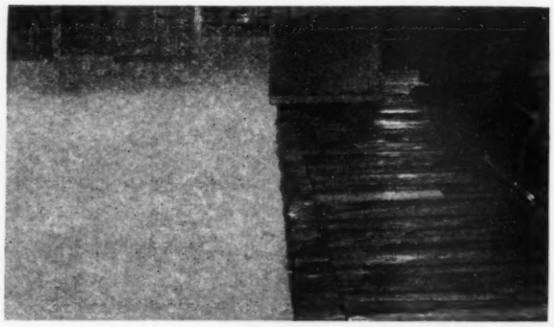
● IN THEORY:-
ACKNOWLEDGED THE BEST

● IN PRACTICE:-
THE MOST WIDELY ADOPTED

. . . . . through constant research and strict specialization.

ASK FOR A DEMONSTRATION

OLD WORN FLOORS——



WOOD and CONCRETE too, can be resurfaced WITHOUT ripping up the old flooring. It's easy to use

STONHARD
RESURFACER
without interfering with mill operations
40,000 SATISFIED USERS
Sold on the basis of
SATISFACTION OR NO CHARGE
Write for details
STONHARD COMPANY
814 Terminal Commerce Bldg., Philadelphia, Pa.

SOLVAY
TRADE MARK REG. U. S. PAT. OFF.

PRODUCTS

After 56 Years Still the Standard!
CAUSTIC SODA
Liquid — Solid — Ground — Flake

56 years . . . and better than ever! Constantly alert, Solvay has always set the pace for scientific production of its alkalies. The most exacting of technical supervision is behind every operation of their manufacture. When you specify Solvay Caustic Sodas you are assured of a product of the highest commercial standards, full strength and uniformity.

Ask for information on

Potassium Carbonate—Potassium Carbonate Liquor — Modified Sodas — Liquid Chlorine — Ammonium Chloride — Calcium Chloride — Causticized Ash — Caustic Potash — Sodium Nitrite — Soda Ash — Para-Dichlorobenzene—Salt—Ortho-Dichlorobenzene.

SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by The Solvay Process Company
40 Rector Street New York
212 South Tryon Street Charlotte, N. C.

SOUTHERN DISTRIBUTORS

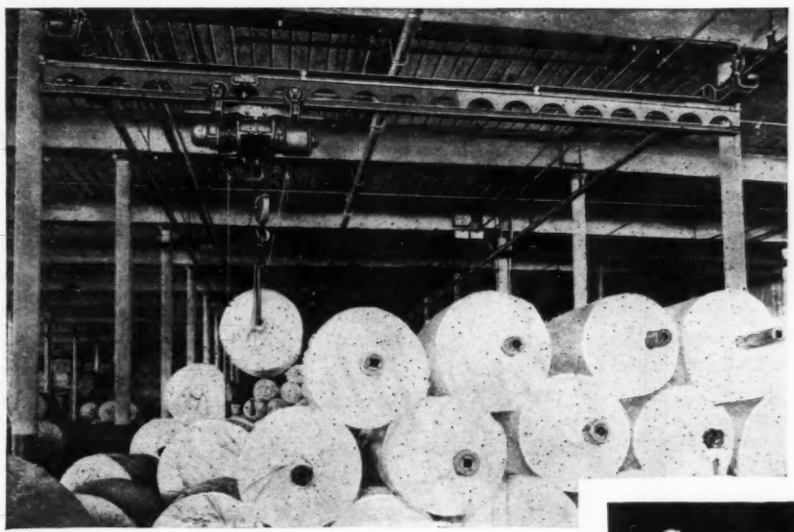
Burkart-Schier Chemical Co., Chattanooga, Tenn.
●
Ideal Mfg. & Sales Corp., Memphis, Tenn.
●
R. B. Krebbs Supply Company, Lynchburg, Va.
●
Lenfestey Supply Co., Tampa, Fla.
●
Miller Machinery & Supply Co., Jacksonville, Miami, Fla.
●
Hercules Powder Company, Paper Makers Chemical Div., Atlanta, Ga.
●
Wittichen Transfer & Warehouse Co., Birmingham, Ala.
●
Yarbrough Supply Co., Inc., Nashville, Tenn.

HURLEY-JOHNSON CORP.
25 WALKER ST., NEW YORK
SOLE AMERICAN AGENTS FOR
JAMES KENYON & SON, LTD.
BURY, LANCASHIRE, ENGLAND
Celebrated
LAPPINGS and BLANKETS for PRINTING MACHINES CLEARER, ROLLER and SLASHER CLOTHS.
For Best results in Sanforizing use
KENYON'S ENDLESS WOOLEN BLANKETS

"Smoother than Grease"
Since 1890

20 years without a drink—
ARGUTO OILLESS BEARING CO.
Wayne Junction, Philadelphia, Pa.

OVERHEAD MATERIALS HANDLING EQUIPMENT



• All your roll handlings can be "Safe" by using a Cleveland Tramrail System — Safe for employees, and "Safe" from Damage to product.

Consult your phone directory
under
Cleveland Tramrail

• Complete Systems for all handlings in all branches of the Textile industry.

CLEVELAND TRAMRAIL
DIVISION OF
THE CLEVELAND CRANE & ENGINEERING CO
1175 Depot St.
WICKLIFFE, OHIO

"Looks like you've got something here!"

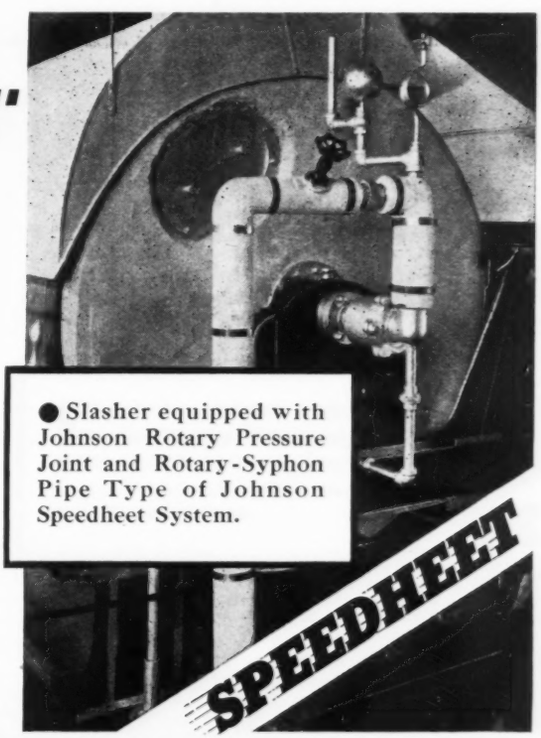
WHAT started out to be merely the best joint for admitting steam to rotating rolls has become still more. It is now the heart of a revolutionary system for both supplying the steam and removing the condensate, air and gas from slashers, sanforizers, dry cans, and similar machines.

The story starts with the Johnson Rotary Pressure Joint—the joint that is packless, self-lubricating, self-adjusting, self-aligning—the joint that has proved its ability to save time, steam, and power in hundreds of installations while outlasting the ordinary packed kind many times over.

But the story doesn't end there. It moves on to the latest Johnson development—the "Speedheet" System of removing condensate, air, and gas through the same Johnson Joint by means of a syphon pipe arrangement. With this method there is no waiting for rolls to heat. And with air and gas removed as well as condensate, the rolls are hotter—speed and production are increased as much as 25%. Moreover, the reduced friction of the Johnson Joints reduces warp stretch and breakage when used on all types of cotton slashers.

Two Speedheet Systems are available: A single stationary syphon-pipe type for smaller rolls not having tie rods, and a rotary syphon-pipe system for the large slashers containing tie rods like that illustrated. Write for latest bulletin.

THE JOHNSON CORPORATION
815 Wood Street, Three Rivers, Michigan



● Slasher equipped with Johnson Rotary Pressure Joint and Rotary-Syphon Pipe Type of Johnson Speedheet System.

Write for NEW BULLETIN

Johnson
Rotary PRESSURE JOINT

VALUABLE ARTICLES

Now Available In Pamphlet Form

A-A **Roving Frame Articles by Fay H. Martin.** So great has been the demand for reprints of Mr. Martin's articles dealing with the roving frame, that the editors of Cotton have made available in pamphlet form the last 12 articles published under Mr. Martin's name. These are **"Draft", "Twist", "Lay" "Tension", "Bobbin of Roving Analyzed", "The Pressure of the Presser", "Roving Frames", "Reverse Twist on the Roving Frame", "Taper Gearing for a Roving Frame", "Roving Frame Cones", "The Compound as Applied to Cotton Roving Frames",** and **"Roving Frame Tensions".** Fay H. Martin is recognized as the leading authority upon the subject of roving frames, and the editors of Cotton are fortunate in securing for publication the articles by Mr. Martin, who writes in a comprehensible manner and in a style that is obvious to the average cotton mill man. The price for the complete set is $1.00.

•

B- **"A Study of the Twister Ring."** This is a five page discussion of wet twisting, dry twisting, cleaning band rings, selecting the proper ring size, and method of lubricating twisting rings. It is illustrated. Figures and practices are included based upon current mill practice under varying conditions. **Price—20 cents each.**

•

D- **"A Practical Analysis of Large Package Spinning."** In which the author takes the matter of large package spinning apart to see what makes it tick. **Price—20 cents each.**

•

E- **"The Spinning Ring."** This is a practical discussion of spinning rings which wll add to the knowledge of the reader on this subject. It tells briefly how rings are made, how to select the right rings for certain work, and discusses the tendency toward narrower flanges. **Price—20 cents each.**

•

F- **"Some Textile Machinery Applications of Variable Speed Drives"** by H. H. Iler. Here a prominent southern operating executive describes a number of applications of variable speed driving mechanisms to textile manufacturing; he gives his experience in the cotton mill and finishing plant with one type of equipment for this purpose. **Price—25 cents each.**

•

G- **"Uses and Advantages of Anti-Friction Bearings on Textile Machinery."** An eight-page illustrated discussion of anti-friction bearings in the textile industry. **Price—35 cents.**

•

M- **"Warp Breakage—A Study of Its Importance and Elimination"** by Albert Palmer. Some of the causes of loom stoppage and a discussion of knots and their proper use. **Price—20 cents each.**

•

N- **"Leno Weaving and Designing"** (in four parts) by Thomas Nelson. This series covers the elementary designs and the subsequent development in the leno field. A 14 page discussion, illustrated, that men in this work will find instructive. **Price—60 cents each.**

•

O- **"The Importance of Cotton Classing and Grading at the Mill"** by H. H. Willis. In which the author points out the value of a good cotton man and gives a description of grade, length, and strength of cotton. Executives should look this discussion over. **Price—25 cents each.**

•

P- **"The Mill Village Problem."** A discussion of employee home ownership, labor turnover, and maintaining community standards. **Price—20 cents each.**

•

Q- **"The Faith that is within Us." "Dynamite or Leaven?" "Not So Different,"** and **"For Value Received."** Here are four essays by Marjorie A. Potwin, Ph.D., which discuss the labor situation in Southern mills. **Price Individually—25 cents. For all four—70 cents.**

A number of articles that have appeared in recent issues of COTTON created much interest and favorable comment throughout the textile industry, with such a demand for extra copies that they were reproduced in pamphlet form.

These pamphlets provide a source of up-to-date, practical and valuable information that will be found usable in every-day textile mill operation. They are available, so long as the supply lasts, at the prices indicated.

•

Designate pamphlets desired by alphabetical letter. Send cash with order.

•

EDITORIAL DEPARTMENT

COTTON

Serving the Textile Industries

GRANT BLDG., ATLANTA, GA.

LAWLOR SCRUBBING MACHINE

- Cleans CLEAN
- Leaves no film
- Reduces accidents
- Simpler to use
- Fewer parts
- More flexibility
- 110 or 220, AC or DC

LET US HELP YOU SOLVE YOUR FLOOR PROBLEM

One of our experts will gladly help you set up an economical floor maintenance schedule, with minimum interruption to production through use of this cost-cutting machine and Selig floor maintenance materials and methods. Selig makes a product that will satisfactorily and economically solve your floor maintenance problem—get SELIG on the job—and you will be proud of your clean, safe floors.

For consultation without obligation, phone or write

THE SELIG CO.

QUALITY HYGIENIC SANITARY PERFECTION ATLANTA

MANUFACTURING CHEMISTS
DALLAS, TEX. *Established 1896* ATLANTA, GA.

Like Peas In a Pod

One of the paramount features of our aprons is UNIFORMITY. Efficiency depends upon the precision in which draft aprons are made.

These aprons will not vary more than 5/1000 of an inch at any spot. Furthermore, each apron is uniform in thickness and exact size with all others in the same shipment, and uniform with previous shipments! They look alike—perform alike—are alike—like peas in a pod.

Gauge Tested [To the Thousandth of an inch]
Textile Aprons

Our aprons are made of the very finest of Bark tanned leather or chrome leather and properly beveled to insure a sure fit when applied. Rough finish inside to grip; smooth finish outside for an even flow of the yarn.

Keep a supply of "spares" on hand for that emergency. When we know the exact type and size you use, we can fill your orders without delay.

Better Aprons—Better Service
Better Prices

A Better Buy!

In every particular you will find our aprons a better buy, and you'll save money at the same time. We can afford to charge less, as our plant is devoted *entirely* to the production of these aprons and our overhead is kept low. We pass these savings on to our customers.

Satisfaction guaranteed in every particular!

Better Send for Samples!

Address Dept. C-3

Give these aprons a trial at our expense and see for yourself how superior they are and figure how much money you can save. *Write for free samples*, telling us the type of spinning machinery you use. If your requirements are other than our regular sizes in stock, we can make them to specification or sample. Get a supply today.

Better Buy!

TEXTILE APRON CO.

905 South Main St., East Point (Atlanta), Georgia.

COOPER STAINLESS CASTINGS

THE IDEAL METAL
for
CORROSION RESISTANCE
in the
TEXTILE INDUSTRY

• • •

Special Castings
(Rough or machined)
Pipe Fittings • Valves
Shipments from Stock

THE COOPER ALLOY FOUNDRY CO.
Elizabeth, N. J.

DISTRIBUTORS:

Jos. T. Ryerson & Son, Inc., Chicago, Milwaukee, Cincinnati, Cleveland, Buffalo, Detroit, Philadelphia, St. Louis, Boston, Jersey City.

Kingsport Foundry & Mfg. Corp., Kingsport, Tenn.

Starke Foundry & Mfg. Co., Richmond, Va.

•

Send for new PIPE FITTING PRICE LIST

STOP WARNS A STEWART FENCE

Nothing prevents trespassing and malicious vandalism like a Stewart Non-Climbable Chain Link Wire Fence. For more than 50 years Stewart Fences have effectively and permanently met every requirement of every type of industrial installation. Exclusive features make Stewart the *one* fence that gives greater value and more years of service per dollar. Sales and erection service in all principal cities. You will find a Stewart representative in your vicinity. Send for catalog showing the many Stewart exclusive constructional features and typical industrial installations.

"World's Greatest Fence Builders Since 1886"

Stewart IRON and WIRE FENCES

The STEWART IRON WORKS CO., Inc.
424 Stewart Block
Cincinnati . . . Ohio

AN UP-TO-DATE PRINTING PLANT

equipped with modern machinery and a staff of competent workmen, solicits, thru this publication, a trial order on your printing needs.

We have built a reputation that is known over the entire South by our special attention to the minutest detail.

We are more than ready to answer any question that relates to your printing problems.

Write us and let us quote you on anything from a postal card to a full bound book.

The A. J. Showalter Co.
PRINTERS AND PUBLISHERS
DALTON GEORGIA

DINKLER HOTELS

. . give *good* service as a matter of course; they are popular because of their *friendly* service, which combine to make *better* service . . .

You will enjoy living in Dinkler operated hotels

★ The ANSLEY ATLANTA
★ The O. HENRY GREENSBORO
★ The SAVANNAH SAVANNAH
★ *The TUTWILER BIRMINGHAM

**Air conditioned bed rooms!*

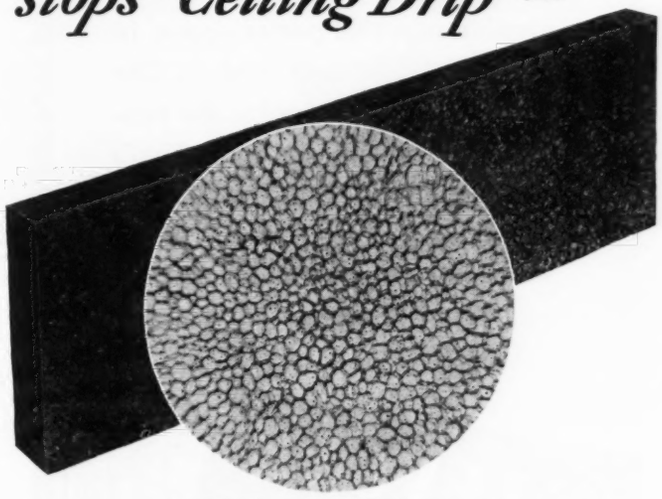
MONTGOMERY The JEFFERSON DAVIS ★
NEW ORLEANS The ST. CHARLES ★
NASHVILLE *The ANDREW JACKSON ★

**Air conditioned bed rooms!*

DINKLER HOTELS CO. INC.
Carling Dinkler, Pres. and General Manager
OPERATING 3000 ROOMS IN SOUTHERN HOTELS

HERE'S WHY

Armstrong's Corkboard stops "Ceiling Drip"—



UNDER THE MICROSCOPE *a particle of cork shows millions of tiny, still-air cells. The walls of these cells form a series of barriers that effectively resist the passage of heat.*

CONDENSATION, or ceiling drip, is a costly annoyance in many textile mills. It strikes at uninsulated roofs, attacking the roof structure, threatening damage and destruction to goods and machines below. The way to stop this damage, to end the threat of ceiling drip is by insulating the roof with Armstrong's Corkboard. This efficient insulating material is composed only of pure cork granules, compressed and baked into board form.

Corkboard insulation ends condensation by blocking the escape of heat through the roof. Condensation results from warm humid air coming in contact with a cold ceiling surface. When outside temperatures are low, heat escaping through the uninsulated roof allows the ceiling to become chilled below the dew point of the air below. Moisture then condenses on the ceiling. The result is an accumulation of moisture in the roof structure and, in most cases, a drip which damages goods and injures equipment. A layer of Armstrong's Corkboard on the mill roof presents an effective safeguard against condensation by keeping heat in—keeping the ceiling warm.

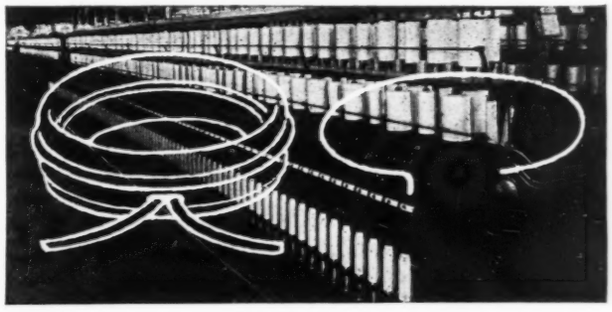
Let Armstrong engineers help you plan to stop condensation in your mill now. If you are planning new construction or remodeling, get the full story of Armstrong's Corkboard and how this efficient insulation has helped to cure ceiling drip in textile mills throughout the country. Write today for details to Armstrong Cork Products Company, Building Materials Division, 1000 Concord Street, Lancaster, Pennsylvania.

Armstrong's **CORKBOARD**

ROOF INSULATION

Through 64 years RING SPECIALISTS

By specifying DIAMOND FINISH Rings, you secure the finest speed track for your travelers that skill and science can produce. 64 years of specialization in this one single textile item enables us to promise you EXTRA GOOD RINGS—and to deliver them!



Short cut to success in new ring practice

Doubtless you, like many other mills, are working on new ways of utilizing synthetic fibres or of changing to larger packages, higher speeds, etc. In deciding on the rings and holders, feel free to use our experience of 64 years Ring Specialization. As sole U. S. licensees for the Eadie Ring (shown above) we are posted on the newest practice as well as the oldest principles.

STUDY YOUR RINGS—Modernization of ring practice often produces valuable savings. Let us help you study them.

WHITINSVILLE (MASS.)

SPINNING DIAMOND FINISH **RING CO.**

Makers of Spinning and Twister Rings since 1873

Southern Representative: H. ROSS BROCK, LaFayette, Georgia
Mid-West Representative: ALBERT R BREEN, 80 E. Jackson Blvd., Chicago

QUICK
as a

When you ask for service at the McAlpin you get it *quickly*. Speed is secondary only to courtesy in the training of the McAlpin staff. You may prefer Hotel McAlpin for its big, beautiful new rooms, you may appreciate the convenience of this fine hotel . . . but its service is its prime feature. Ask any of the five million guests who have enjoyed the facilities of the McAlpin during its years of service to New York visitors.

JOHN J. WOELFLE, *Mgr.*

★ Flash

HOTEL McALPIN

"The Center of Convenience"

Broadway at 34th Street

NEW YORK

ROOMS WITH BATH FROM

$2.50 Single $4.00 Double $4.50 Twin-Bedded

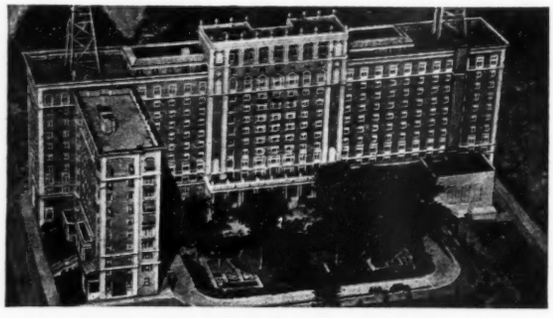
. . . MEN IN THE MAJOR LEAGUES

Those men every community regards as leaders . . . in turn demand similar superior performance. In Chicago these men find at The Stevens the atmosphere . . . the comfort they demand of a hotel. That's the reason they call The Stevens, "America's Grand Hotel." Their strongest endorsements are their repeated autographs on our register.

OTTO K. EITEL, *Managing Director*

Room, with Bath, from $3

Where Your Hotel Requirements Are Met—



Atlanta's Most Looked-Up-To Address

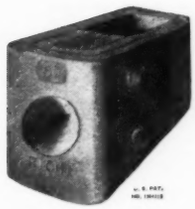
. . . where you will receive friendly service in an atmosphere of comfort and dignity, away from the center of noise.

600 outside rooms — All with circulating ice water and bath. Dining room and Coffee Shop at popular prices.

RATES FROM $3

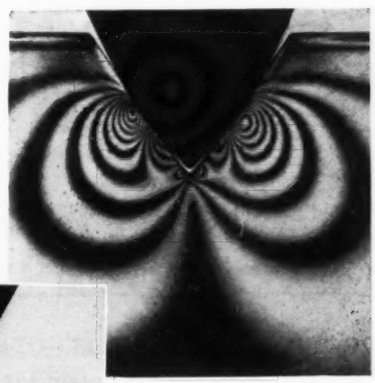
ATLANTA BILTMORE

the 50 type picker*



cuts your picker bill

Because the Life Saver hole distributes the shock like this



Instead of concentrating it in one point like this

These X-ray pictures of a shuttle striking a picker show clearly why the 50 type Picker cuts your picker bill.

Notice how the scientifically cut Life Saver hole of the 50 type Picker (top photo) spreads the force of the blow — so that the whole picker absorbs it.

In the lower photo you see how the shuttle point acts like an ice pick, when it strikes a picker with an inaccurately cut hole. The force of the blow is concentrated in one point and the picker breaks down more quickly.

The Life Saver hole is a patented feature of the 50 type Picker. It costs no more — yet you need replacements only half as often.

*The PICKER with the LIFE SAVER hole

Graton and Knight

the HOME OF RESEARCH

WORCESTER, MASSACHUSETTS

PAGE FENCE

9 REASONS for making PAGE your choice

PAGE has pioneered in woven metal property protection for 54 years. So many superior fence features have been developed by PAGE that every firm or individual contemplating a fencing installation is invited to obtain complete PAGE FENCE facts. Note these 9 briefs and mail coupon for free information booklet.

1. PAGE originated woven wire fence in 1883.
2. Exclusive PAGE "flat-weave" allows tighter stretching; lessens side-sway, wear and corrosion at contact points.
3. The only fence made in 5 superior metals to meet different destructive air conditions—Page P-12 guaranteed Copper-bearing Steel—Page-Armco Ingot Iron—Page-Alcoa Aluminum—Page-Allegheny Stainless Steel—Page genuine Wrought Iron.
4. The P-12 Wing-channel Line Post is exclusive to PAGE—the only metal post designed exclusively for fence use.
5. No "raw ends" in a PAGE fence. Page P-12 extra heavy 12-test galvanizing is done after weaving and cutting.
6. Page P-12 is the only galvanized metal fence with matched fabric, fittings, top-rail and line posts.
7. PAGE FENCE pays for itself in reduced fire-insurance rates, decrease in stolen goods, fewer claims for injuries, increase in usable space, riot protection, reduction of information "leaks."
8. PAGE P-12 fabric, fittings, top-rail and posts are uniformly covered by the industry's highest known twelve-test guarantee.
9. 92 Page Fence Distributors with complete responsibility in fence-erection service, estimates and consultation are located conveniently throughout the United States—associated to serve you, wherever you are.

FENCE FACTS FREE

Mail coupon for nearest Page Fence Distributor's name and free copy of new informative booklet, "Fence Facts."

Page Fence is a product of the Page Steel & Wire Division of American Chain & Cable Company, Inc.

PAGE FENCE ASSOCIATION

DEPT. C11 **Bridgeport, Connecticut**

Please mail new free booklet "Fence Facts" and name of nearest associated Page Fence Distributor.

Name.....

Address.....

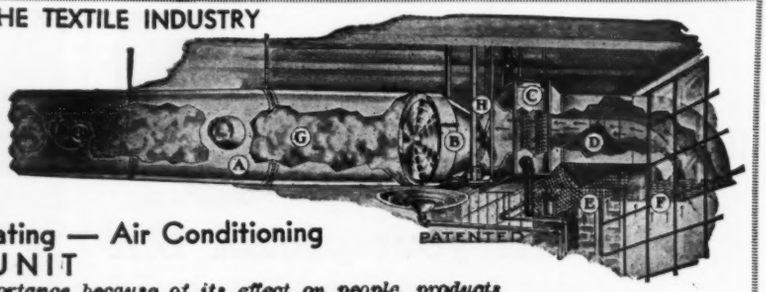
City.....*State*.....

America's First Wire Fence—Since 1883

THE MOST MODERN EQUIPMENT FOR THE TEXTILE INDUSTRY

The

BAHNSON HUMIDUCT



For Humidifying — Heating — Ventilating — Air Conditioning

ALL IN ONE UNIT

Air Conditioning in industry is growing in importance because of its effect on people, products and profits. It must be considered as one of the essential tools of modern plant operation.

THE BAHNSON COMPANY, WINSTON-SALEM, N. C.

SALES ENGINEERS:

D. P. STIMSON
S. C. STIMSON
Winston-Salem, N. C.

I. L. BROWN
886 Drewry St., N.E.
Atlanta, Georgia

F. S. FRAMBACH
703 Embree Crescent
Westfield, N. J.

D. D. SMITH
906 West Lovell St.,
Kalamazoo, Michigan

TRADING POST EXCHANGE

BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

DISPLAY RATES

Rates are net, payable in advance each month No commission or discounts. Page is 3 columns, 10 inches deep—30 inches to page. Space measured by even inch vertically by 1, 2 or 3 columns in width. Column width 2¼ inches. Rates based on the total space used in one year.

	Per Inch		Per Inch
1 inch	$5.00	13 inches	$4.20
3 inches	4.80	20 inches	4.00
6 inches	4.60	50 inches	3.80
10 inches	4.40	100 inches	3.00

UNDISPLAYED

Advertisements set "Want ad style." Positions wanted .05 word per insertion. Minimu charge $1.00 per insertion. Cash with order. All other classifications .10 word per insertion. Minimum charge $2.00 per insertion. Advertisements of equipment, for sale, rent or wanted and professional cards are accepted at display rate only.

Box number address care of COTTON, Grant Bldg., Atlanta, Ga., count a seight words.

Paul B. Eaton
PATENT ATTORNEY
1408 Johnston Bldg., Charlotte, N. C.
514 Munsey Bldg., Washington, D. C.
Former Member Examining Corps
U. S. Patent Office

EMPLOYMENT SERVICE
Wire or write us for competent Southern and Northern textile mill men. Over 40 years in business. Charles P. Raymond Service, 294 Washington St., Boston, Mass.

PATENT ATTORNEY
SAMUEL TIERNEY JR.
4425 Tangerine Ave., St. Petersburg, Fla.
Applications prepared and prosecuted personally; ten years experience before Patent Office.

Your Advertisement on This Page

will produce results at small cost. Do you desire a position? Do you desire a good man to fill a vacancy in your mill? Do you desire your business or professional card placed before the textile industries?

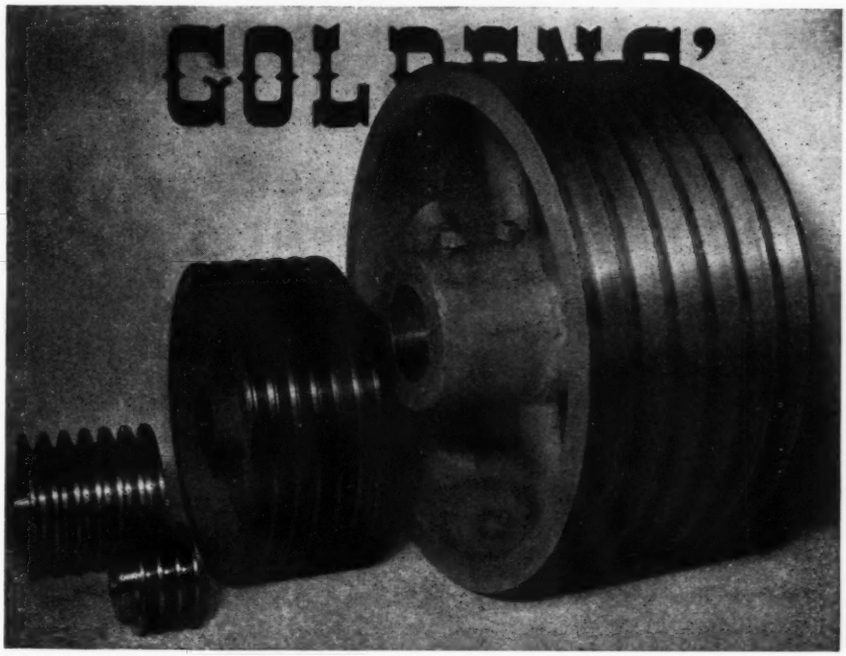
Why not try an advertisement on this page of COTTON? Its 11,250 copies per month reach the textile executives, superintendents and heads of departments throughout the industry.

Note the rates above and send in your advertisement today.

COTTON, Grant Bldg. ATLANTA, GA.

1882
to
1937

Over Half
a
Century



55 Years
as a
Measure
of
Reliability

V-BELT SHEAVES

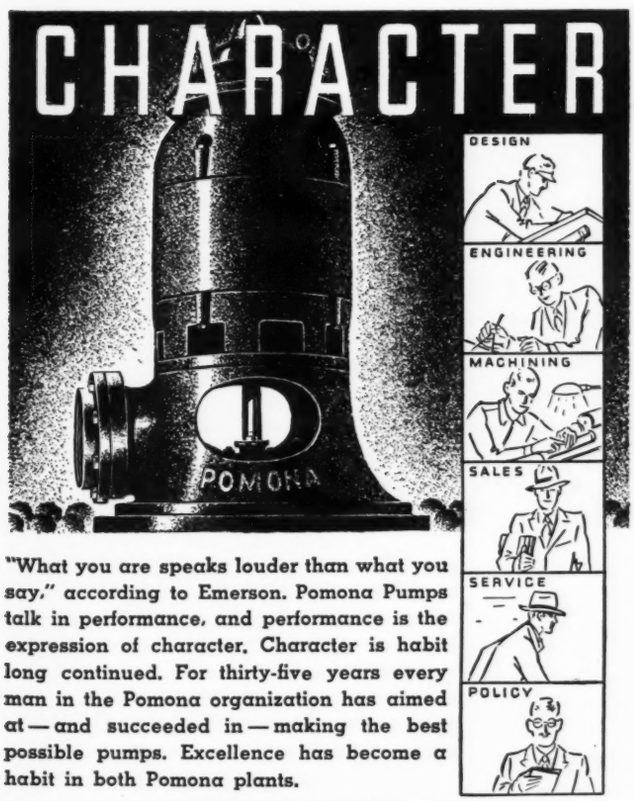
LICENSED BY ALLIS-CHALMERS UNDER GEIST PATENT No. 1,662,511

A difference in Size—but not in Quality

WE can furnish Sheaves to suit your requirements, but—Large or Small—they will all be well designed, strong and true-running, with grooves accurately turned for any licensed make of V-Belt.

GOLDENS' FOUNDRY & MACHINE COMPANY, COLUMBUS, GEORGIA

CHARACTER

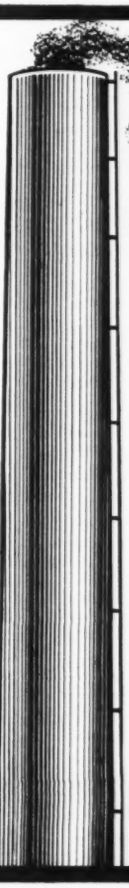


"What you are speaks louder than what you say," according to Emerson. Pomona Pumps talk in performance, and performance is the expression of character. Character is habit long continued. For thirty-five years every man in the Pomona organization has aimed at — and succeeded in — making the best possible pumps. Excellence has become a habit in both Pomona plants.

POMONA PUMP CO.

Manufacturing Plants: Pomona, California - St. Louis, Missouri
Branch Offices: New York - Chicago - Los Angeles - San Francisco

POMONA TURBINE PUMPS



SMOKE STACKS

Another Cole Product

Our various fabricated COLE steel products also include Smokestacks and Standpipes and you'll find them to stack up to your needs in every way. These stacks made to specification from your designs or ours, which our Engineering Department will gladly furnish. Put your Stack—also stack of problems—up to us.

OTHER COLE PRODUCTS ARE:

Tanks and Towers
Bins and Vats
Kettles and Kiers
Boilers and Engines
Air Receivers
Nickel-clad and Stainless Steel Vessels
Welded Steel Pipe
Heavy pressure vessels
Fabricated framework

Write for "Tank Talk"—No. 9-C.

Tank Builders for Over 80 Years!

R.D. COLE MFG.CO.
NEWNAN ···GEORGIA

Advertisers' Index

The Advertisers' Index is published as a convenience, and not as a part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.

A

Acme Steel Co. ..... *
Albany Felt Co. ..... *
Aldrich Machine Works 32
Alemite Division of Stewart-Warner Corp. 37
Allis-Chalmers Mfg. Co. 21
Allis Co., Louis ..... *
American Aniline Products, Inc. ..... *
American Casablancas Corp. ..150
American Moistening Co. 144
American Pulley Co. 25
American Yarn & Processing Co. 122
Arguto Oilless Bearing Co. ...150
Arkansas Co., Inc. 139
Armstrong Cork Products Co. .....73 and 155
Arnold Hoffmann & Co., Inc..137
Ashworth Bros., Inc. ..... *
Atlanta Envelope Co. ..... *
Atlas Electric Devices Co. ...138

B

Bahnson Co. 158
Barber-Colman Co. 91
Barkley Machine Works 146
Blickman, Inc., S. ..... *
Borne Scrymser Co. 142
Bosson & Lane, Inc. 146
Boston Woven Hose & Rubber Co. ..... *
Boyle Co., Inc., A. S. 148
Brinton Co., H. 130
Brown Co., David ..... *
Brown Instrument Co. ..... *
Buffalo Electro-Chemical Co., Inc. 138
Burroughs Adding Machine Co. *
Butterworth & Sons Co., H. W. *

C

Cameron Machine Co. ..... *
Campbell & Co., John 140
Ciba Company 140
Cleveland Tramrail Division .151
Clinton Co. 96
Clipper Belt Lacer Co. ..... *
Clover Leaf Mfg. Co. ..... *
Cole Mfg. Co., R. D. 159
Columbia Alkali Corp. 145
Commercial Credit Co. 23
Commercial Factors Corp. 77
Continental-Diamond Fibre Co. *
Cooper Alloy Foundry Co. ...154
Cowles Detergent Co. 26
Crane Co. ..... *
Crompton & Knowles Loom Works 3

D

Danielson Mfg. Co. ..... *
Dary Ring Traveler Co. 146
Dayton Rubber Mfg. Co. .... *
Debevoise Co. ..... *
Denison Mfg. Co. 146
Detergent Products Corp. 96
Diehl Mfg. Co. 147
Drake Corp. 94
Draper Corporation 1
Dronsfield Bros., Ltd 138
Dupont de Nemours & Co., Inc., E. I., Dyestuffs Division... *
Dupont de Nemours & Co., Inc., E. I., Fine Chemicals Division ..... *
Dupont de Nemours & Co., Inc., E. I., Finishes Division .... *
Dupont de Nemours & Co., Inc., E. I., Grasselli Chemicals Dept. ..... *
Dupont de Nemours & Co., Inc., E. I., R. & H. Chemicals Dept. .....*

E

Eaton, Paul B. 158
Economy Baler Co. 96
Emmons Loom Harness Co. ... 22

F

Fafnir Bearing Co. ..... *
Fiber Mfg. Co. 137
Foster Machine Co. 34
Fostoria Pressed Steel Corp...132
Foxboro Co. ..... *
Franklin Process Co. .... Inside Front Cover
Frigidaire Corporation ..... *

G

Gastonia Textile Sheet Metal Works, Inc. 140
Gates Rubber Co. ..... *
Gaylord Container Corp. ..... *
General Dyestuff Corp. 83
General Electric Co. ..... *
General Electric, Nela Park.. 28
General Electric Vapor Lamp Co. 16
Gill Leather Co. ..... *
Goldens' Foundry & Mch. Co...159
Goodyear Tire & Rubber Co... 71
Graton & Knight Co. 157
Gulf Oil Corporation ...13 and 75

H

H & B American Machine Co. ..... *
Hauser-Stander Tank Co. 149
Henderson Fdry. & Mach. Works 148
Hercules Powder Co. 38
Hermas Machine Co. ..... *
Hetherington & Sons, Inc., John 138
Hinde & Dauch Paper Co. ... *
Hotel Atlanta Biltmore 156
Hotels Dinkler 154
Hotel McAlpin 156
Hotel Stevens 156
Houghton & Co., E. F. ..... *
Howard Bros. Mfg. Co. 143
Hudson Industrial Corp. 149
Hunter Machine Co., James .. *
Hurley-Johnson Corp. 150
Hussong-Walker-Davis Co. .... *
Huyck & Sons, F. C ..... *
Hyatt Bearings Division ..... *

I

International Nickel Co., Inc.. 7

J

Jacobs Graphic Arts Co. 36
Johnson Bronze Co. 106
Johnson, Chas. B. ..... *
Johnson Corporation 151
Johnson Service Co. ..... *

K

Kali Mfg. Co. 138
Keever Starch Co. 144

L

Langevin, George F. ..... *
Laurel Soap Mfg. Co. 135
Lawlor Co., S. C. 153
Link-Belt Co. 35
Loper Co., Ralph E. 148
Lunkenheimer Co. ..... *

M

Maguire & Co., Inc., John P..148
Manchester Amoskeag Coordinating Committee 81
Manhattan Rubber Mfg. Co. Division ..... *
Maple Flooring Mfg. Assn. ... *
Mathieson Alkali Works 4
Meese, Inc. ..... *
Merrow Machine Co. 142
Mill Factors Corp. ..... *
Moccasin Bushing Co. 148
Morehead Mfg. Co. 89
Morse Chain Co. ..... *

N

National Oil Products Co. 85
National Ring Traveler Co....144
National Supply Co. 30
New York & New Jersey Lubricant Co. 96
North, Inc., Frank G. 135

O

Old Dominion Box Co. 130
Onyx Oil & Chemical Co. 136

P

Page Fence Asso. 157
Parks-Cramer Co. 33
Penick & Ford, Ltd. 149
Permutit Co. 87
Philadelphia Drying Mchry. Co. 135
Philadelphia Quartz Co. 132
Pomona Pump Co. 159
Power Transmission Council.. *
Proctor & Schwartz, Inc. ... 75

R

Randall Graphite Products Corp. ..... *
Raymond Service, Chas. P. ..158
Reeves Pulley Co. ..... *
Reilly Tar & Chemical Co. ... *
Reliance Electric & Eng'g Co. .....14 and 15
Republic Rubber Co. 20
Robert & Company ..... *
Rochester Eng'g & Centrifugal Corp. ..... *
Rockwood Mfg. Co. ..... *
Rohm & Haas Co. ..... *
Royce Chemical Co....Back Cover
Royersford Needle Works, Inc..116

S

S. K. F. Industries, Inc. ..... *
Saco-Lowell Shops 9
Sargents Sons Corp., C. G.... 27
Scholler Bros., Inc. 132
Scott & Williams, Inc. 109 and 110
Selig Company 153
Seydel-Woolley & Co. ..... *
Sherwin-Williams Co. ..... *
Showalter Printing Co., A. J..154
Sipp-Eastwood Corp. ..... *
Sirrine & Co., J. E. 144
Smith, Drum & Co. ..... *
Socony-Vacuum Oil Co., Inc. .....17 and 18
Sonoco Products Co. 92
Solvay Sales Corp. 150
Southeastern Governors Conference .....Front Cover
Southern Sizing Co. 146
Staley Mfg. Co., A. E. ..... *
Standard Brands, Inc. 136
Standard Oil Co. of Ky. .... *
Standard Trump Bros. Mch. Co. ..... *
Steel Heddle Mfg. Co. ..... *
Stein, Hall & Co., Inc. ..... *
Stewart Iron Works 154
Stonhard Co. 150
Sturtevant Co., B. F. 12

T

Taylor Instrument Companies. *
Terrell Machine Co. 106
Texas Co. 2
Textile Apron Co. 153
Textile Machine Works 114
Tierney, Jr., Samuel 158
Three-In-One Oil 148
Torrington Co. .....127 and 128
Trading Post Exchange 158
Truscon Laboratories 19
Tubize Chatillon Corp. 10

U

United Factors Corp. ..... *
Universal Winding Co. 11
U S Bobbin & Shuttle Co. .. 24
U. S. Ring Traveler Co. 136
U. S. Rubber Products, Inc... 8
U. S. Testing Co., Inc. ..... *

V

Van Vlaanderen Machine Co... 40
Veeder-Root, Inc. ....Inside Back Cover

W

Walker Electrical Co. ..... *
Wallerstein Co., Inc. 31
Want Ads 158
Warp Twisting-In Machine Co..135
Warwick Chemical Co. ..... *
Waterman, Currier & Co., Inc..130
West Point Foundry & Mch. Co. 141
Westinghouse Electric & Mfg. Co. 6
Whitin Machine Works 5
Whitinsville Spinning Ring Co..155
Wildman Mfg. Co. 120
Willcox & Gibbs Sewing Machine Co. 124
Wolf & Co., Jacques 29
Worthington Pump & Mchry. Corp. ..... *

Veeder-Root

THE ONLY *Complete Line* OF TEXTILE COUNTING DEVICES

Throughout your mill . . . on all equipment from cards to looms to inspection machines . . . Veeder-Root Counters can give you accurate records on which to base systems of production control, scheduling, and wage payment.

More than thirty years of intensive creative work have gone into the steady development of the Veeder-Root line. And Veeder-Root engineers reckon not only with today's demands . . . they anticipate tomorrow's requirements as well. From their drafting boards came the famous quick-convertible 2-3 Pick Counter (shown at the head of this column), and then the 2-3 Hank Counter. Also the two and three shift yardage counters, the cost-cutting compression clamp for pick counters, the right-angle drive for hank and yardage counters, and many other improvements.

Today, as always, Veeder-Root engineers work unceasingly at refinements of textile counter design and construction. So, to get the most and best for your money in any type of counter you require . . . get it from Veeder-Root.

VEEDER-ROOT

VEEDER-ROOT INC., HARTFORD, CONN.

OFFICES IN BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT GREENVILLE, S. C. LOS ANGELES NEW YORK PHILADELPHIA PITTSBURGH ST. LOUIS SAN FRANCISCO MONTREAL BUENOS AIRES MEXICO CITY LONDON PARIS TOKIO SHANGHAI MELBOURNE

Builders of Counting Devices Since 1878

Oh Yeah! YOU'RE A GOOD MIXER in a CROWD

..BUT with VAT GUMS?

Well anyway - Stop fussing with your vat gum mixing for PRINTS on Pigmented rayons!

VATRO-GUM

is ready-to-use - except for the dyestuff. VATRO-GUM is altogether TOPS for convenience and uniformity of composition. It produces finer color work. It SAVES and SAVES and SAVES!

Get these 5-STAR Features!

★ A UNIFORM VISCOSITY 'way beyond general color-shop methods.

★ A LABORATORY-CONTROLLED proportion of reducing agent.

★ A DEEPER PENETRATION-Smooth, even prints not equalled with any gum or starch mixtures.

★ A FREE-FLOWING ACTION-A sharp mark, perfect linting-No tarnish. SAVES dyestuff by greatest color retention.

★ A COMPLETE DISPERSION in ordinary washing. Turns out a soft, pliant fabric.

VATRO-GUM

READY-MIXED in a grade to suit.

•

Needs only the addition of dyestuff.

•

WE'LL HELP SELECT YOUR GRADE.

ROYCE CHEMICAL COMPANY

Chemical Manufacturers

CARLTON HILL • NEW JERSEY